Document n° 1364-3 ~ 29/01/2010

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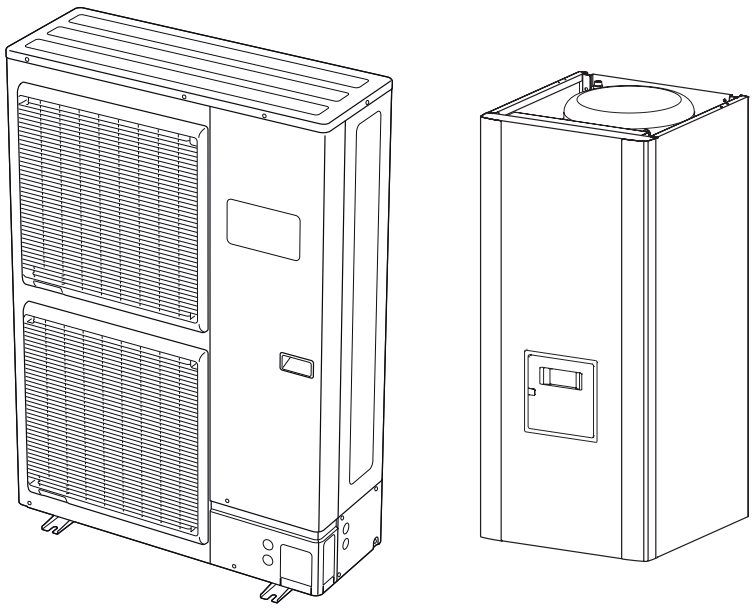
Heat pump air/water split single service 3 phase



Installation and operating manual

intended for professionals

To be saved for future consultation

FUJITSU

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Subject to modifications without notice.
Non contractual document.

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Packing list

Heat pump		*Outdoor unit*		*Hydraulic module*	
Model		***Model***	***Code***	***Model***	***Code***
112		WOYK112LAT		WSYK160DA9	023615
140		WOYK140LAT			
160		WOYK160LAT			

Optional equipment

- 2nd circuit kit (UTW-KZSXA).
  - for connecting 2 heating circuits.
- DHW kit (UTW-KDWXA).
  - for connecting a DHW tank (with built-in electrical backups).
- Boiler connection kit (UTW-KBSXA).
  -for connecting a boiler to the heat pump.
- Room thermostat (UTW-C55XA).
  - for correcting the ambient temperature.
- Room control unit (UTW-C75XA).
  - for correcting the ambient temperature and programming the heat pump.
- Cooling kit (UTW-KCLXA).
- Swimming pool kit (UTW-KSPXA).
- High flow rate circulating pump kit (UTW-PHFXA).
  - for the installation of 1 circuit floor heating.
- Cooling kit (UTW-KCHXA) compatible with high flow rate circulating pump.

Scope of application

This heat pump provides :

- Heating in winter.
- Control of two heating circuits*.
- Production of domestic hot water*
  (provided that combined with a DHW tank).
- Cooling* in summer (for floor heating-cooling system or fan-convectors).
- Installation with boiler connection as a supplementary heating for the coldest days*.

* : These options require the use of additional kits (see para. "Optional equipment").

1 Description of the unit

1.1 Package

• 1 package: Outdoor unit.

• 1 package: Hydraulic unit and outdoor sensor.

1.2 Definitions

Split : The heat pump consists of two elements (an outdoor unit for outside and a hydraulic unit for inside the dwelling).

Air/water : The surrounding air is the energy source. This energy is transmitted to the water in the heating circuit by the heat pump.

Inverter : The fan and compressor speeds are modulated according to the heating requirements.

This technology enables you to save on energy and operate on a three-phases power supply, whatever the heat pump's output, by avoiding heavy intensities on start-up.

COP (coefficient of performance) : This is the relationship between the energy transmitted to the heating circuit and electrical energy consumed.

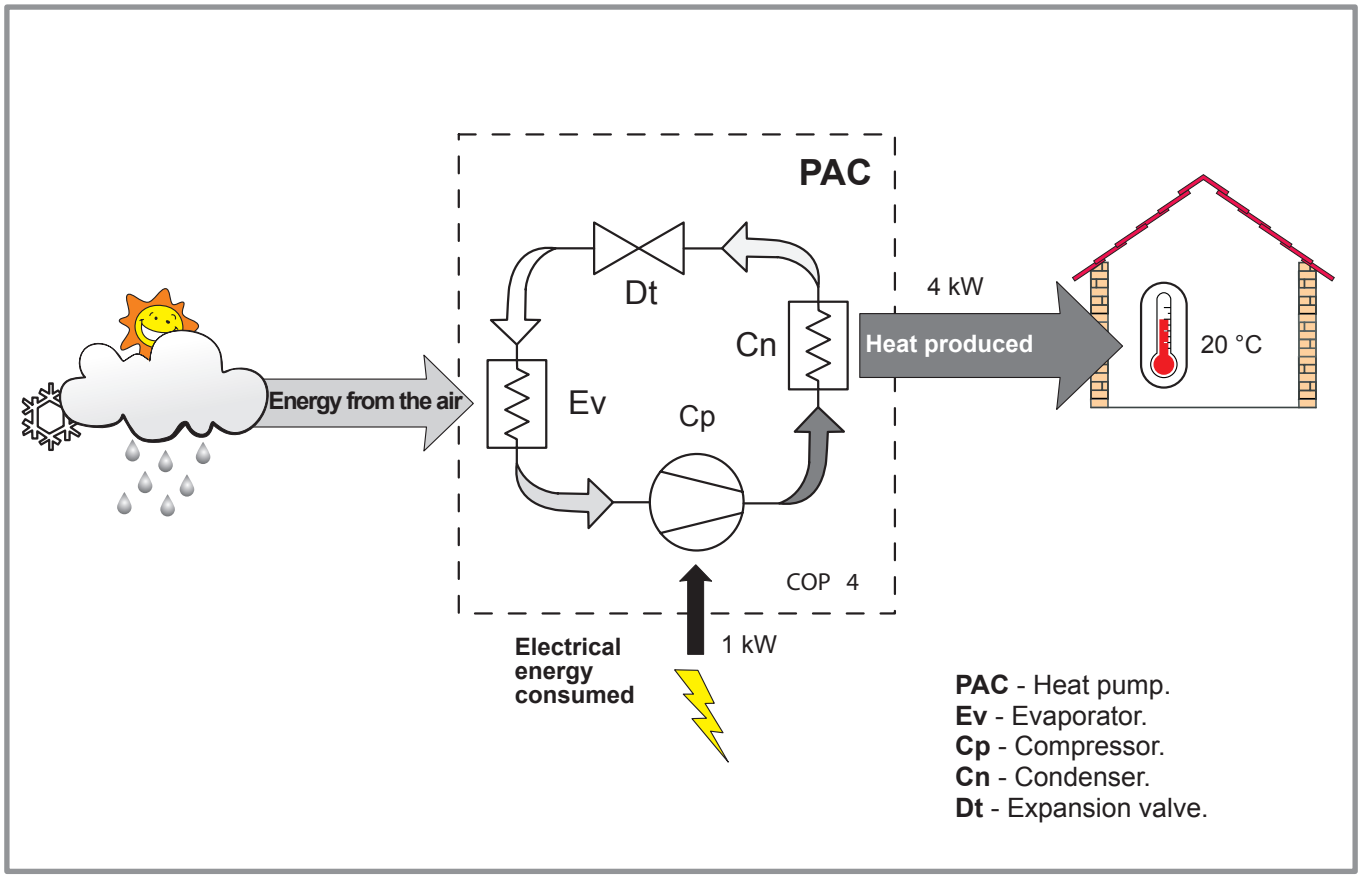


Figure 1 - Heat pump operating principle

1.3 Specifications

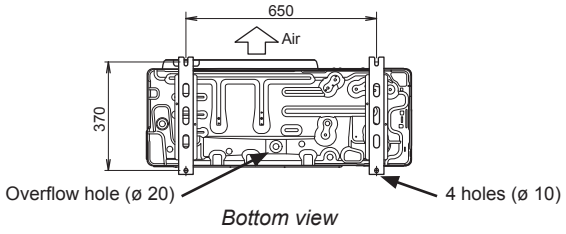
Designation, model		112	140	160
Nominal heating performances (outdoor temperature/ initial temperature)				
Heat output				
+7 °C / +35 °C - Floor heating system	kW	11,2	14	16
-7 °C / +35 °C - Floor heating system	kW	11,2	14	15
+7 °C / +45 °C - Low temperature radiator	kW	10,5	13,1	15,1
-7 °C / +45 °C - Low temperature radiator	kW	10,5	13,1	14,5
Power absorbed				
+7 °C / +35 °C - Floor heating system	kW	2,51	3,22	3,72
-7 °C / +35 °C - Floor heating system	kW	3,92	5,15	5,55
+7 °C / +45 °C - Low temperature radiator	kW	2,9	3,7	4,42
-7 °C / +45 °C - Low temperature radiator	kW	4,16	5,39	6,38
Nominal coefficient of performance (COP) (+7 °C / + 35 °C)	-	4,46	4,35	4,30
Electrical characteristics				
3-Phase electrical voltage (50 HZ)	V	400	400	400
Maximum current of the appliance	A	8,5	9,5	10,5
Nominal current	A	3,6	4,8	5,5
Nominal current of the electrical back-ups	A	13	13	13
Power of the electrical back-ups	kW	9	9	9
Real power absorbed				
- By the fan	W	2 x 104	2 x 104	2 x 104
- By the circulation pump	W	151	151	151
Maximum power absorption				
- By the outdoor unit	kW	5,175	5,865	6,555
Hydraulic circuit				
Maximum operating pressure	bar	3	3	3
Hydraulic system flow rate				
4°C<Dt<8°C (nominal conditions)				
- minimum	l/h	1200	1500	1700
- maximum	l/h	2400	3000	3400
Various				
Weight of outdoor unit	kg	99	99	99
Noise level at 1 meter (outdoor unit)***	dB	53	55	56
Weight of hydraulic unit (empty/full of water)	kg	53	53	53
Water capacity of the hydraulic unit	l	25	25	25
Heating system operating limits				
Exterior temp mini/maxi	°C	-20/+35	-20/+35	-20/+35
Initial max. heating water temperature				
- Floor heating system	°C	45	45	45
- Temperature radiator	°C	60	60	60
Flow min. heating water temperature	°C	8	8	8
Refrigeration circuit				
Diameter of gas pipes	inches	5/8	5/8	5/8
Diameter of liquid pipes	inches	3/8	3/8	3/8
Factory charge of refrigerant R410A	g	2500	2500	2500
Maximum operating pressure	bar	42	42	42
Minimum length of pipes	m	5	5	5
Maximum length of pipes*	m	15	15	15
Maximum length of pipes**	m	20	20	20
Maximum level difference**	m	15	15	15

* Factory charge of refrigerant R410A.

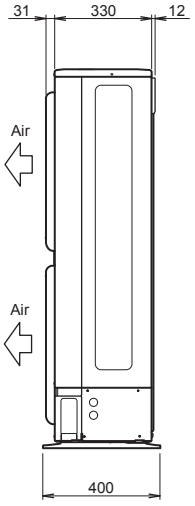
** Taking into account the possible additional load of refrigerant R410A (see page 20).

***Acoustic noise information : The maximum sound pressure level is less than 70 dB(A) for both hydraulic unit and outdoor unit. According to IEC 704-1 and ISO 3744.

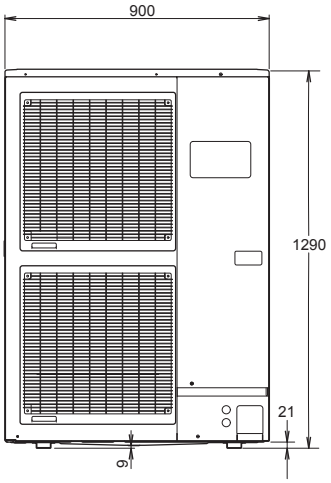
☞ Outdoor unit



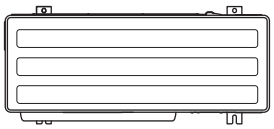
Bottom view



Side view



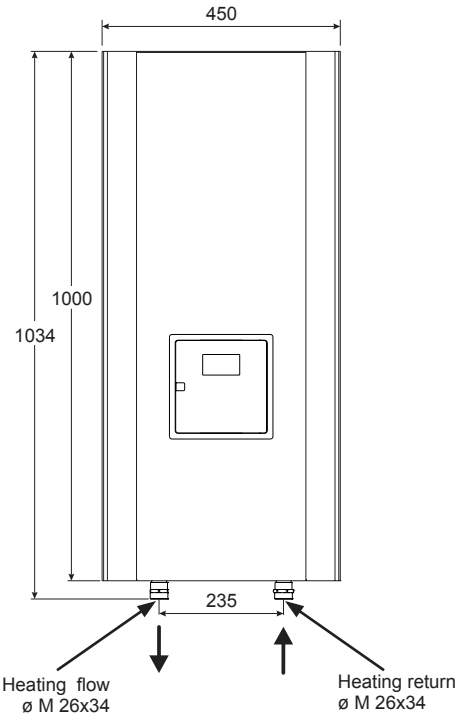
Front view



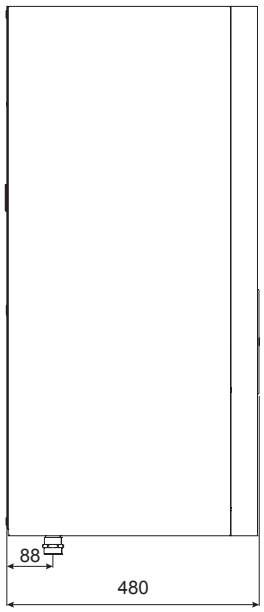
Top view

Figure 2 - Dimensions in mm

☞ Hydraulic unit



Front view



Side view

Figure 3 - Dimensions in mm

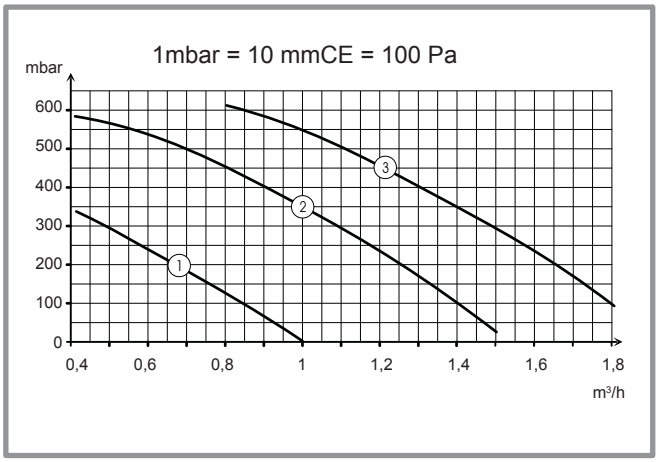


Figure 4 - Hydraulic pressures and flow rates available

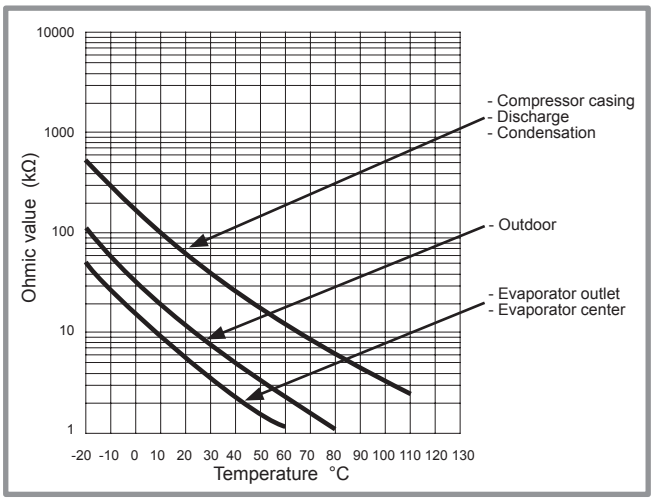


Figure 6 - Ohmic values of the sensors (outdoor unit)

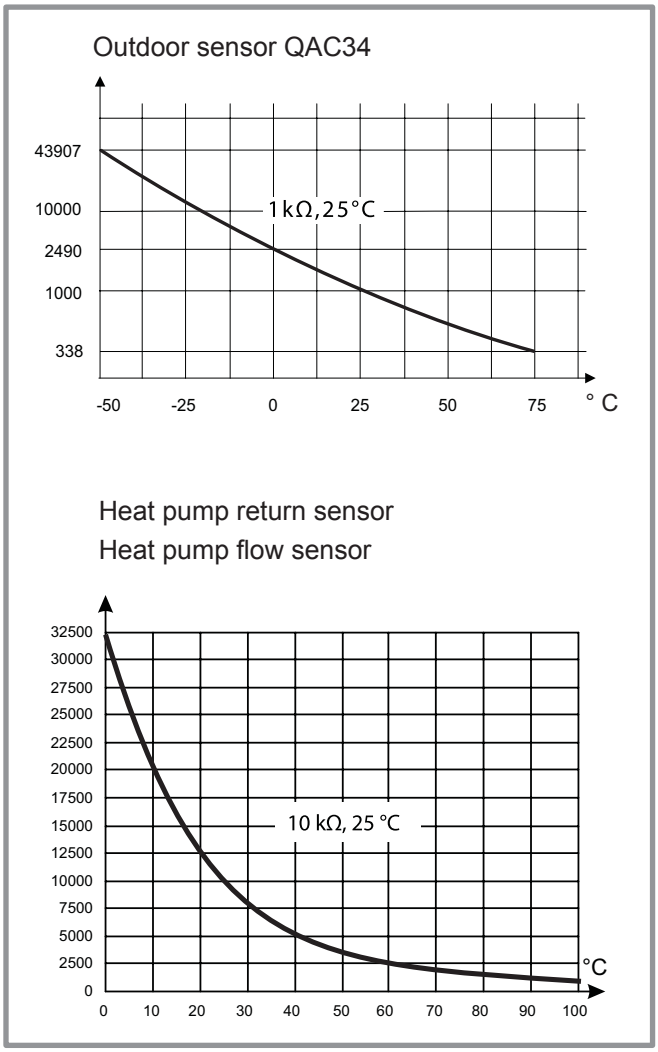
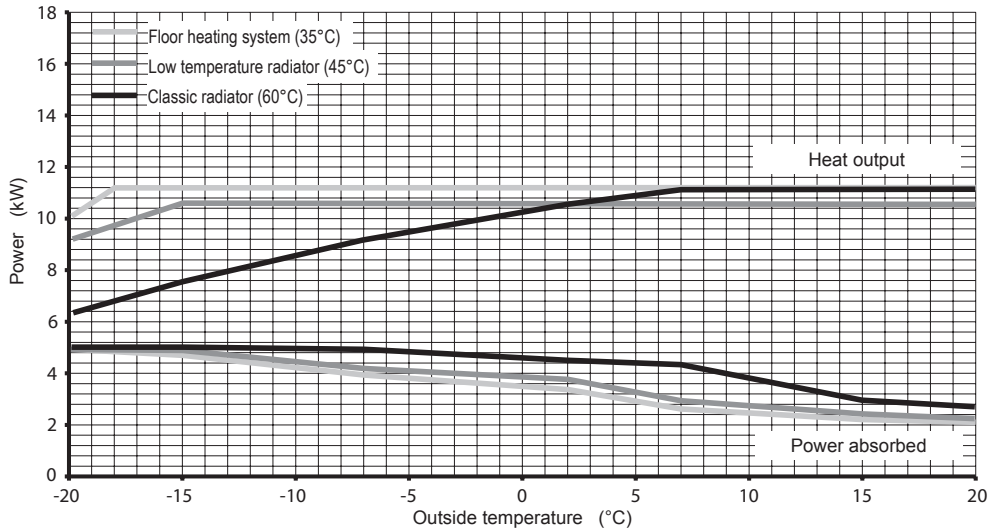


Figure 5 - Ohmic values of the sensors (Hydraulic unit)

1.4 Heating power curve

Values according to standard EN 14511, for which it is necessary to add the power absorbed by the heating circulation pump

112



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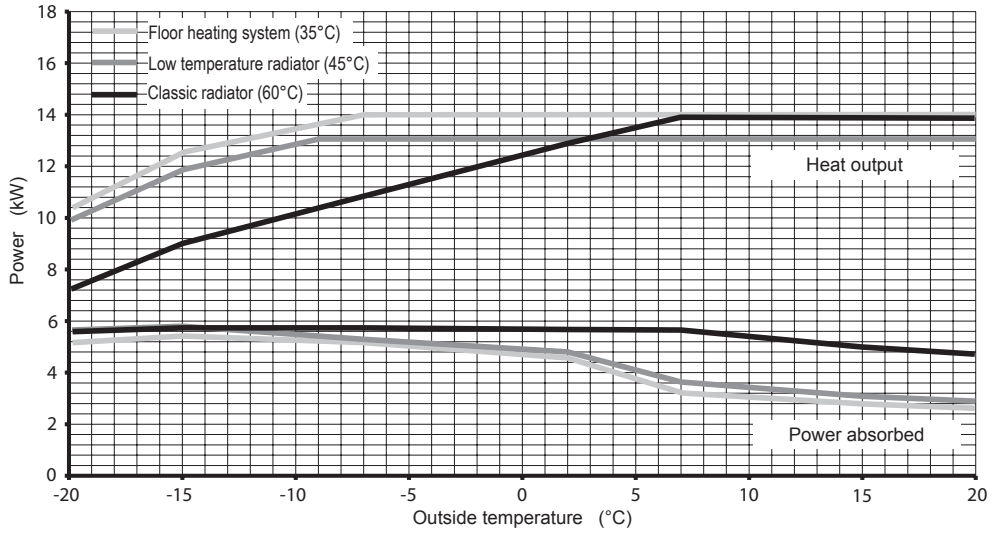

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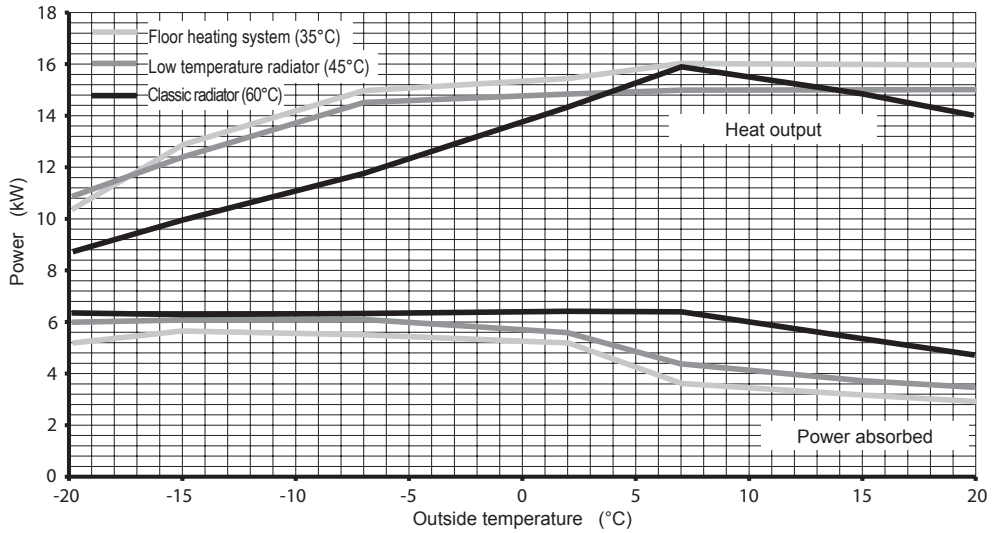
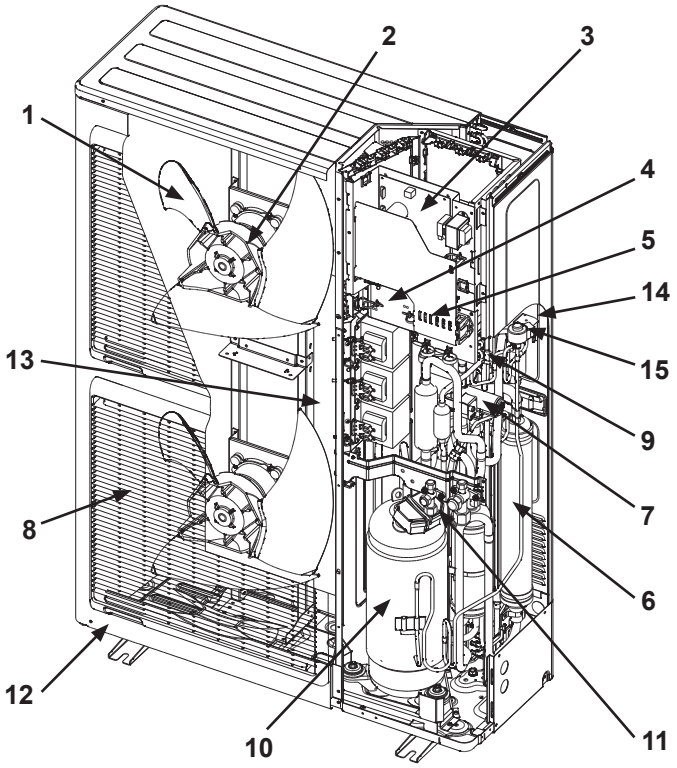


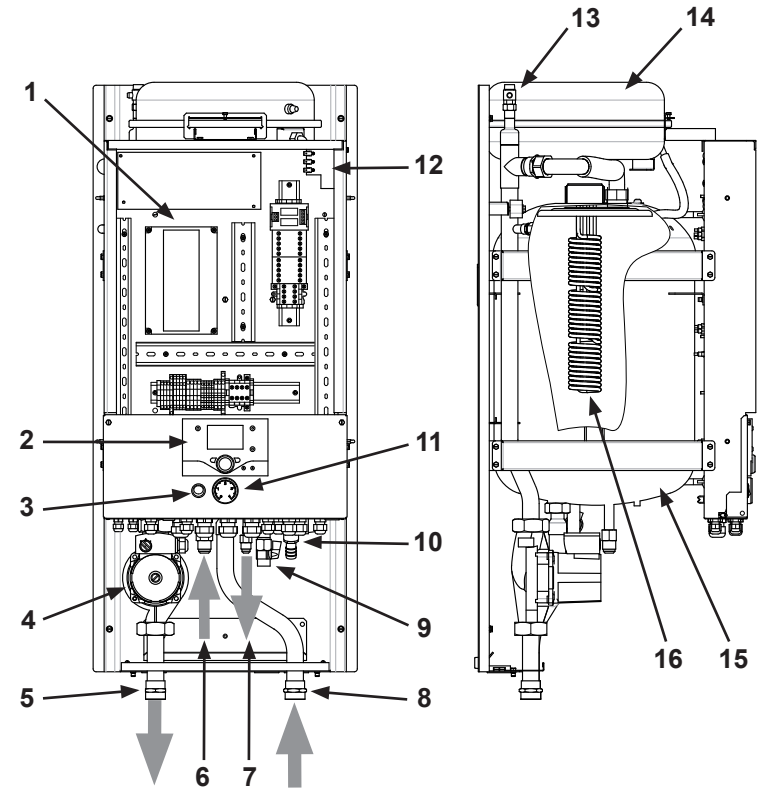
1.5 Description



Legend

1 - Low-noise, high-output propeller fan.
2 - Electric variable speed "inverter" motor.
3 - "Inverter" control module.
4 - Control lights and buttons.
5 - Connection terminal blocks (power and interconnection).
6 - Refrigerant accumulator bottle.
7 - Four way valve.
8 - Anti-corrosion treated bodywork.
9 - (Hidden behind the inverter control module) Electric expansion valve for main circuit.
10 - Noise and temperature insulated "inverter" compressor with liquid injection port.
11 - Refrigeration connection valves (flared connectors) with protective caps.
12 - Holding tank with condensate drain hole.
13 - High-performance exchange surface evaporator; anti-corrosion treated hydrophilic aluminium fins and grooved copper tubes.
14 - Solenoid valve for liquid injection.
15 - Electric expansion valve for liquid injection.

Figure 7 - Outdoor unit components



Legend

1 - Electric box.
2 - Regulator / User interface.
3 - Start/stop switch.
4 - Heating circulation pump.
5 - Heating flow.
6 - Gas refrigeration connection.
7 - Liquid refrigeration connection.
8 - Heating return.
9 - Drain valve.
10 - Safety valve.
11 - Manometer.
12 - Safety thermostat.
13 - Manual drainer.
14 - Expansion vessel.
15 - Condenser.
16 - Electric back-ups.

Figure 8 - Hydraulic unit components

1.6 Operating principle

The heat pump transmits the energy contained in the surrounding air into the dwelling to be heated.

The heat pump consists of four main elements, in which a refrigerant (R410A) circulates.

- In the evaporator (rep. **13**, figure 7, page 10) : The energy is taken from the surrounding air and is transmitted to the refrigerant. Because it has a low boiling point, it changes from the liquid state to the vapour state, even in cold weather (down to -20 °C outdoor temperature).
- In the compressor (rep. **10**, fig 7 , page 10) : The vaporised refrigerant brought to high pressure and takes on more calories.
- In the condenser (rep. **15**, figure 8, page 10) : The energy in the refrigerant is transmitted to the heating circuit. The refrigerant returns to liquid state.
- In the expansion valve (rep. **9**, figure 7, page 10) : The liquefied refrigerant is brought back to low pressure and returns to its initial temperature and pressure.

The heat pump is equipped with a controller, which controls the room temperature based on the outdoor temperature measurement and governed by the temperature control.

The room thermostat (option) provides a corrective action for the temperature control.

The hydraulic unit is equipped with an electric back-ups system, which is triggered to provide additional heat during the coldest periods.

Regulation functions

- The heating circuit's initial temperature is controlled by the temperature control.
- The power of the outdoor unit is modulated according to initial heating temperature via the "inverter" compressor.
- Possibility to set the setpoint of maximun heating initial temperature.
- Control of the electric back-up heating.
- The daily timer program enables you to define the periods for comfortable or reduced ambient temperature.
- Summer/winter mode switchover is automatic.
- Control of the supplementary boiler* (the electric back-ups are deactivated).
- The room thermostat* (option) provides a corrective action for the temperature control
- Control of a second heating circuit*.
- Domestic hot water : Heating time programme, control of the operation of the DHW circulation pump*.
- Control of swimming pool heating*.
- Managing the cooling*.

Protection functions

- Anti-legionella cycle for domestic hot water.

* If the heat pump is equipped with optional equipment and the associated kits.

Domestic hot water (DHW) operating principle

Two domestic hot water (DHW) temperatures can be parametered: comfort temperature (line 1610 to 60 °C) and reduced temperature (line 1612 to 40 °C).

The default heat pump program (line 560, 561 and 562) is set for comfort temperature from 0.00 to 5.00h and for reduced temperature for the rest of the day.

This optimises electrical consumption while ensuring comfortable availability of hot water.

Setting for reduced temperature can be useful to prevent the DHW from switching on too often and for too long during the day.

The production of domestic hot water (DHW) is triggered when the temperature in the tank falls 7°C (setting from line 5024) below the set temperature.

The heat pump produces the domestic hot water, which is then supplemented, if required, by electrical backup heating from the tank.

To ensure a DHW setting over 45°C, the electrical backup heating or the boiler must be left on.

Depending on how the parameter (1620) is set, comfort temperature can be reached 24h/day or only at night or depending on the heat pump programme.

If the contract concluded with the energy provider includes a subscription to day/night tariff, the electrical backup is subordinate to the supplier's power tariff and the comfort temperature may only be reached at night.

If no particular contract is concluded, the comfort temperature can be reached at any time, including during the day

The production of DHW takes priority over heating; nevertheless the production of DHW is controlled by cycles that control the times assigned to the heating and the production of DHW in the event of simultaneous demand.

A function to switch from "reduced" to "comfort" is provided on the front of the user interface (see ref. 1, figure 39, page 29).

If the heating installation is equipped with a DHW circulation pump, the pump's operation during DHW cycles can be parametered.

Anti-legionella cycles can be programmed.

2 Installation

2.1 Regulation installation and maintenance conditions

The appliance must be installed and the maintained by an approved professional in accordance with the prevailing regulations and code of practice, in particular:

The legislation on the handling of refrigerants.

2.2 Unpacking and reservations

2.2.1 Receipt

Carefully check, in the carrier's presence, the general appearance of the appliances and check that the outdoor unit is not laid on its side or back.

In the case of any dispute, state any appropriate reservations to the carrier in writing within 48 hours and send a copy of this letter to the After-Sales service.

2.2.2 Handling

The outdoor unit should not be laid on its side or back during transport.

Laying the unit down during transport is likely to damage the internal tubes and the compressor suspensions.

Any damage caused by transportation of the unit lying down is not covered by the warranty.

If necessary the outdoor unit may be tilted only during manual handling (to go through a door or use a staircase).

This operation must be conducted very carefully and the appliance must be immediately restored to upright position.

2.2.3 Accessories provided

- Accessories provided with the outdoor unit (figure 10).
- Accessories provided with the hydraulic unit (figure 9)

2.3 Installation position

The choice of the position for installation is particularly important insofar as any later movement is a delicate operation requiring the intervention of a qualified person.

Choose the site of the outdoor unit and the hydraulic unit after discussion with the customer.

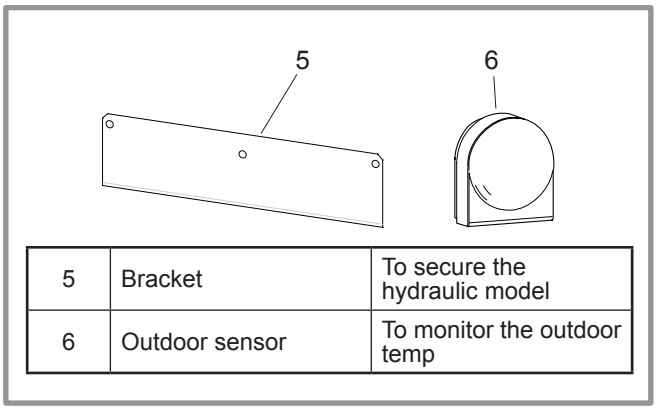
Observe the maximum and minimum distances between the hydraulic unit and the outdoor unit (figure 17, page 16) ; the guarantee of the performances and the system's service life depend on this.

2.4 Installation of the outdoor unit

2.4.1 Installation precautions

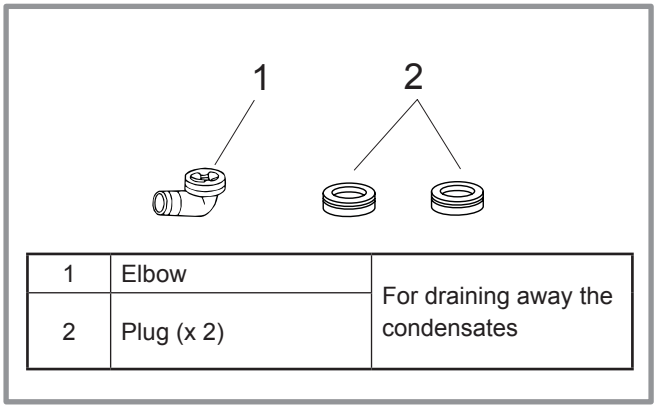
☞ **The outdoor unit must only be installed outside (outdoors). If a shelter is required, it must have broad openings on the 4 walls and observe the installation clearances (figure 11).**

- Choose a site that is preferably sunny and sheltered from strong cold predominant winds (mistral, tramontana, etc…).
- The unit must be easily accessible for future installation and maintenance work.
- Ensure that it is possible to make the connections to the hydraulic unit easily.
- The outdoor unit is able to withstand bad weather but avoid installing in a position where it is likely to be exposed to significant dirt or flowing water (under a defective gutter for example).



5	Bracket	To secure the hydraulic model
6	Outdoor sensor	To monitor the outdoor temp

Figure 9 - Accessories provided with the hydraulic unit



1	Elbow	For draining away the condensates
2	Plug (x 2)	

Figure 10 - Accessories provided with the outdoor unit

- Water may drain away from the outdoor unit when it is operating. Do not install the appliance on a paved terrace ; choose a well-drained place (e.g. gravel or sand). If the installation is in an area where the temperature can be lower than 0°C for a long period, check that the presence of ice does not present any danger. A drainage pipe can also be connected to the outdoor unit (see figure 12, page 14).
- Nothing should obstruct the air circulation through the evaporator and from the fan.
- Keep the outdoor unit away from heat sources and inflammable products.
- Make sure the appliance not disturb the surrounding area or users (noise level, draught generated, low temperature of the air being blown out, with the risk of freezing plants in its path).
- The surface supporting the outdoor unit should:
- be permeable (soil, gravel, etc),
- support its weight easily,
- provide a solid fixing and
- not transmit any vibration to the dwelling.
- Anti-vibratory blocks are available, please consult your retailer.

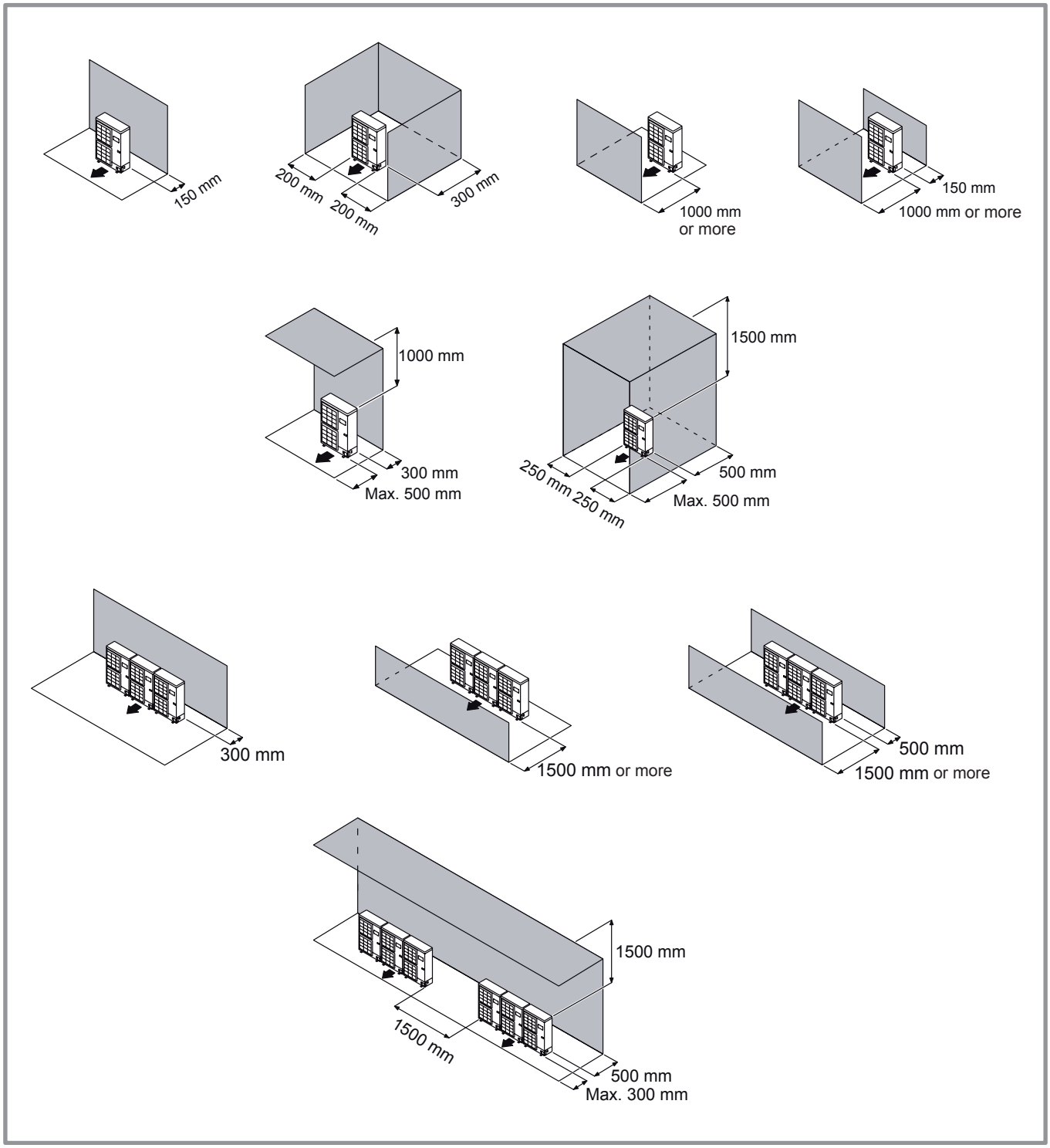


Figure 11 - Minimum installation clearances around outdoor unit

2.4.2 Outdoor unit positioning

The outdoor unit must be raised at least 50 mm above ground level. In areas prone to snow, this height should be increased but should not exceed 1,5 m (figure 12).

- Fasten the outdoor unit by means of screws and rubber tightening or toothed lock washers to avoid their coming loose.

2.4.3 Condensate drain hose

(see figure 12).

If the use of a discharge pipe is imperative:

- Use the elbow provided (**C**) to connect a 16 mm diameter hose for draining away the condensate.
- Use the stopper or stoppers provided (**B**) to block the opening of the condensate tank.

Allow for the condensate to flow away under the force of gravity (waste water, rain water, gravel bed).

☞ **If the installation is made in an area where the temperature can be lower than 0°C for a long period, provide the drain pipe with a trace resistance to avoid it icing up. The trace resistance must heat not only the pipe but also the bottom of the appliance's condensate collection tank.**

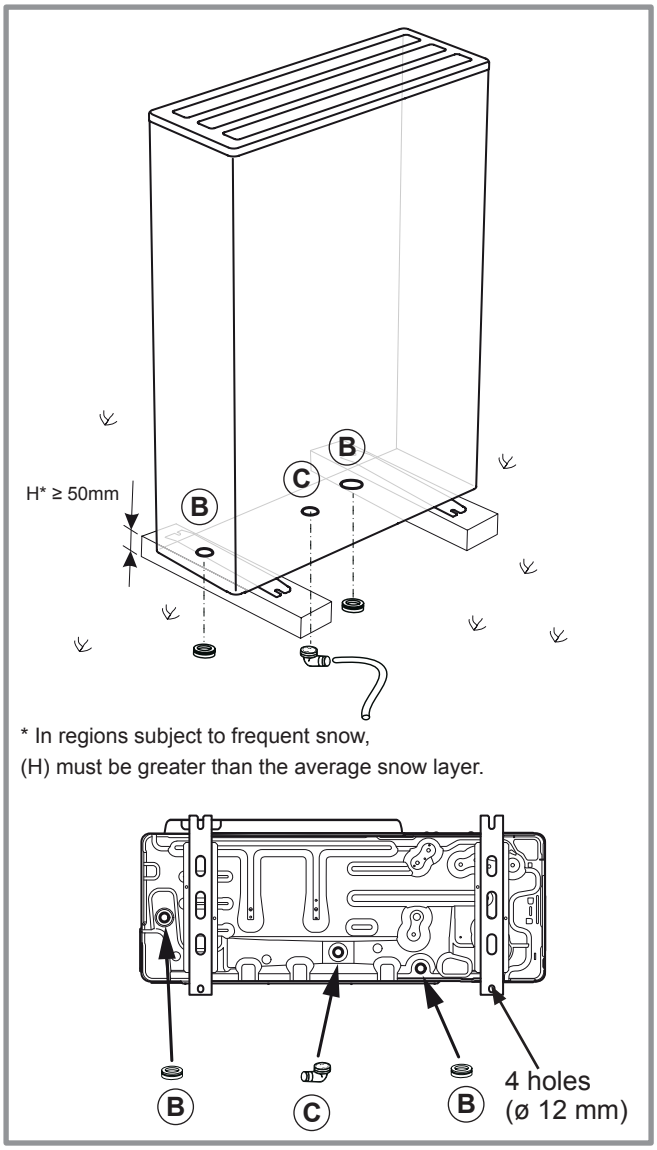


Figure 12 - Positioning of the outdoor unit, draining away the condensate

2.5 Installing the hydraulic unit

2.5.1 Installation precautions

- The room in which the appliance operates must comply with the prevailing regulations.
- To facilitate maintenance and to allow access to the various components, we recommend that you provide sufficient space all around the hydraulic unit (figure 13).
- Be careful not to bring inflammable gas near to the heat pump during its installation, in particular when it requires brazing. The appliances are not fireproof and should not therefore be installed in a potentially explosive atmosphere.

2.5.2 Positioning the hydraulic unit

- Remove the front panel (2 screws **A**, figure 14)
- Remove the sides (4 screws **B**, figure 15).
- Fix the support solidly (3 screws and plugs) to a flat, hard-wearing wall (not a light partition) ensuring that it is correctly levelled.
- Hook the appliance onto its support.
- Refit the sides.
- Refit the front panel.

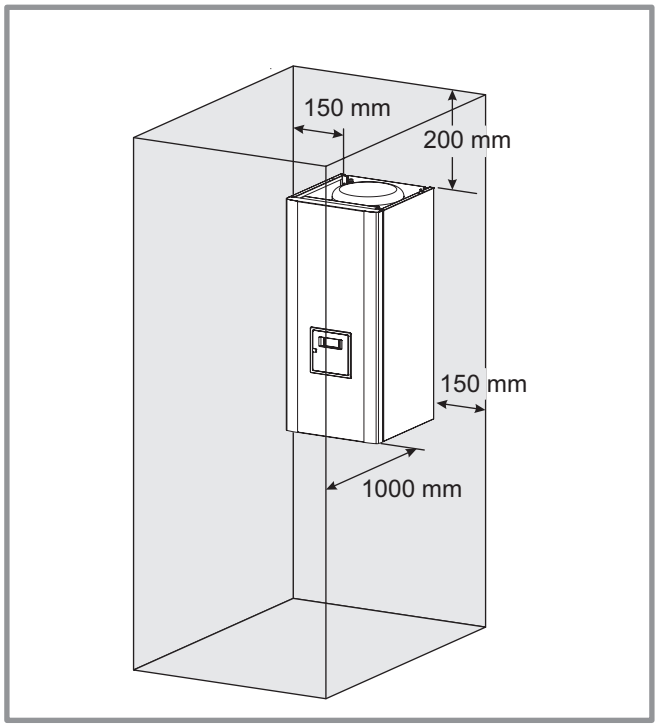


Figure 13 - Minimum installation clearances around the hydraulic unit and distances to the combustible partitions

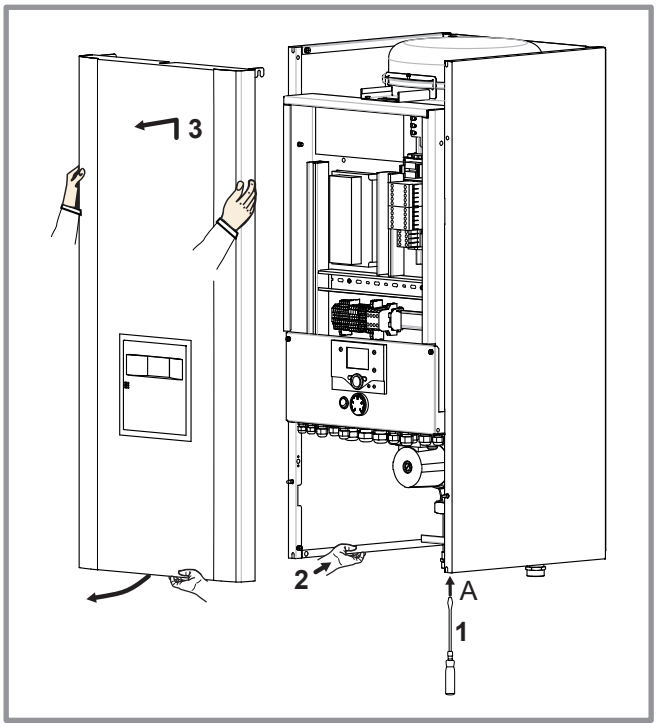


Figure 14 - Removing the front panel

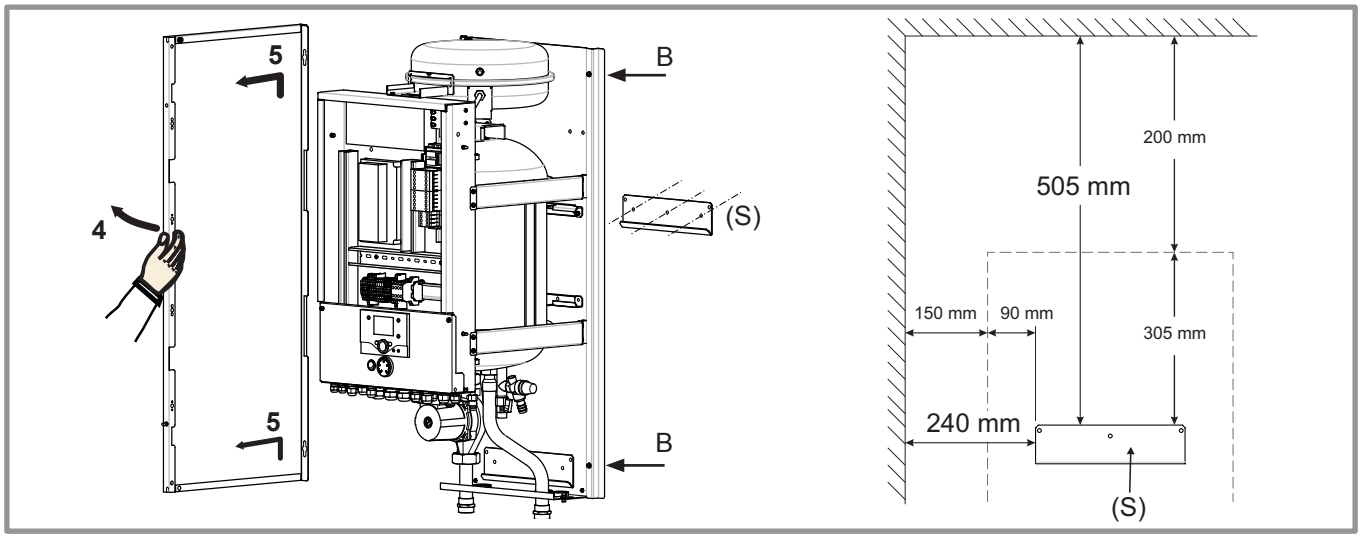


Figure 15 - Removing the sides and fixing the support

2.6 Refrigeration connections

☞ **This appliance uses refrigerant R410A.**

Comply with the legislation for handling refrigerants.

2.6.1 Rules and precautions

• After every intervention on the refrigeration circuit and before final connection, take care to replace the plugs in order to avoid any pollution from the refrigeration circuit.

• ***Tools***

- Set of manometers with hoses exclusively reserved for HFCs (Hydrofluorocarbons).
- Vacuum pump specially for HFCs.
- Provision on using tools that have been in contact with HCFCs (R22 for example) or CFCs.
- Use of a traditional vacuum pump is authorized if, and only if, it is fitted with a non-return valve on the suction side.

The manufacturer declines any liability with regard to the guarantee if the above instructions are not observed.

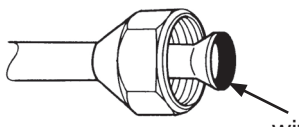
• ***Flared connections***

☞ **Lubrication with mineral oil (for R12, R22) is forbidden.**

- Only lubricate with polyolester refrigeration oil (POE). If POE is not available, fit without lubrication.

• ***Brazing on the refrigeration circuit (if necessary)***

- Silver brazing (40% minimum recommended).
- Brazing only under dry nitrogen internal flux.



Coat the flared surface with **POE refrigeration oil.**

Do not use mineral oil.

Figure 16 - Prevention of gas leaks

• To eliminate any filings in the pipes, use dry nitrogen to avoid introducing any humidity that may adversely affect the appliances operation. In general, take every precaution to avoid humidity penetrating into the appliance.

• Proceed to insulate the gas and liquid pipes to avoid any condensation. Use insulating sleeves resistant to temperatures over 120°C. In addition if the humidity level in the areas where the refrigeration pipes pass risks exceeding 70%, protect the pipes with insulating sleeves. Use a sleeve thicker than 15mm if the humidity reaches 80%, and a sleeve thicker than 20 mm if the humidity exceeds 80%. If the recommended thicknesses are not observed under the conditions described above, condensation will form on the surface of the insulation material. Lastly, take care to use insulating sleeves whose thermal conductivity is 0.045 W/mK or less when the temperature is 20°C. The insulation must be impermeable to resist the passage of steam during the defrosting cycles (fibreglass wool is prohibited).

2.6.2 Refrigeration connections

The outdoor unit must be connected to the hydraulic unit with copper pipes and connections (refrigeration quality), insulated separately.

Comply with the pipe diameters and the permitted pipe lengths (figure 17).

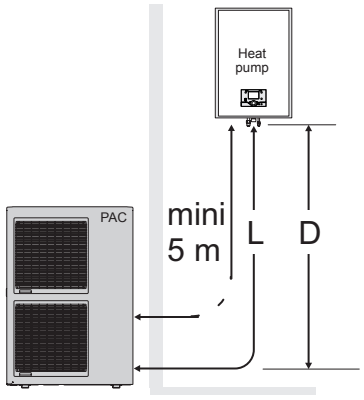
The minimum length of the refrigeration connections is 5 m for correct operation.

The appliance will be excluded from guarantee if it is used with refrigeration connections less than 5 m long.

Manipulate the pipes and take them through walls with protective plugs in place.

If the distance between the outdoor unit and the hydraulic unit exceeds the length of the maximum conduits indicated in the table, an additional charge of R410A must be loaded.

The quantity of R410A added must be adapted to the length of the refrigeration circuit in order to the heat pump's performance without damaging the compressor (See para. "Additionnal charge", page 20).



	Gas and liquid conduits				
	Gas	***Liquid***	***Minimum length (L)***	****Maximum length (L)***	*****Maxi level difference (D)***
Heat pump Model	5/8"	3/8"	5	15	15

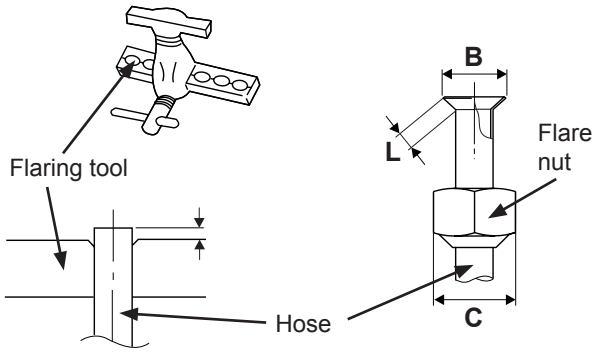
* : Without additional charge of R410A.

** : Taking into account the possible additional load of refrigerant R410A (see para. 2.7.3, page 20).

Figure 17 - Pipe diameters (in inches) and permissible lengths (in meters)

2.6.3 Creating the flarings

- Cut the pipe to an appropriate length with a pipe-cutter without deforming it.
- Carefully deburr it, holding the pipe towards the bottom to avoid introducing filings into the pipe.
- Remove the flared connection nut situated on the valve to be connected and slip the pipe into the nut.
- Proceed to flare, letting the pipe overflow the flaring tool.
- After flaring, check the condition of the working radius (**L**). This must not show any scratch or trace of any fracturing. Also check the dimension (**B**).



ø Hose	Dimensions in mm		
	L	B $^{0}/_{-0,4}$	C
9,52 (3/8")	2,5 to 2,7	13,2	22
15,88 (5/8")	2,9 to 3,1	19,7	29

Figure 18 - Flaring for flare connections

2.6.4 Shaping the refrigeration pipes

The refrigeration pipes must be shaped only on a bending machine or with a bending spring in order to avoid any risk of crushing or breaking them.

☞ **Warning**

- Remove the insulation material locally to bend the pipes.
- Do not bend the copper to any angle over 90°.
- Never bend pipes more than 3 times in the same position otherwise traces of fracturing may appear (from strain-hardening the metal).

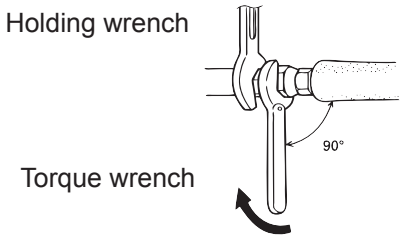
2.6.5 Connecting the flared connections

☞ **The small pipe must always be connected before the large one.**

☞ **Take particular care positioning the tube opposite its connector so as not to risk damaging the threads. A carefully aligned connector can be fitted easily by hand without much force being required.**

☞ **The refrigeration circuit is very sensitive to dust and humidity: check that the area around the connection is clean and dry before removing the plugs protecting the refrigeration connectors.**

- Remove the plugs from the pipes and the refrigeration connections.
- Present the pipe to the flared connector and screw the nut by hand while holding the connector with a wrench until contact.
- Comply with the recommended tightening torques.



Designation	Tightening torque
Flare nut 9,52 mm (3/8")	32 to 42 Nm
Flare nut 15,88 mm (5/8")	63 to 75 Nm
Plug (A) 3/8"	20 to 25 Nm
Plug (A) 5/8"	30 to 35 Nm
Plug (B) 3/8", 5/8"	10 to 12 Nm

Figure 19 - Tightening torque

		Outdoor unit connections	*Diameter of refrigeration connections*	*Hydraulic unit connections*
Heat pump Model	Gas	5/8"	(D1) 5/8"	5/8"
	Liquid	3/8"	(D2) 3/8"	3/8"

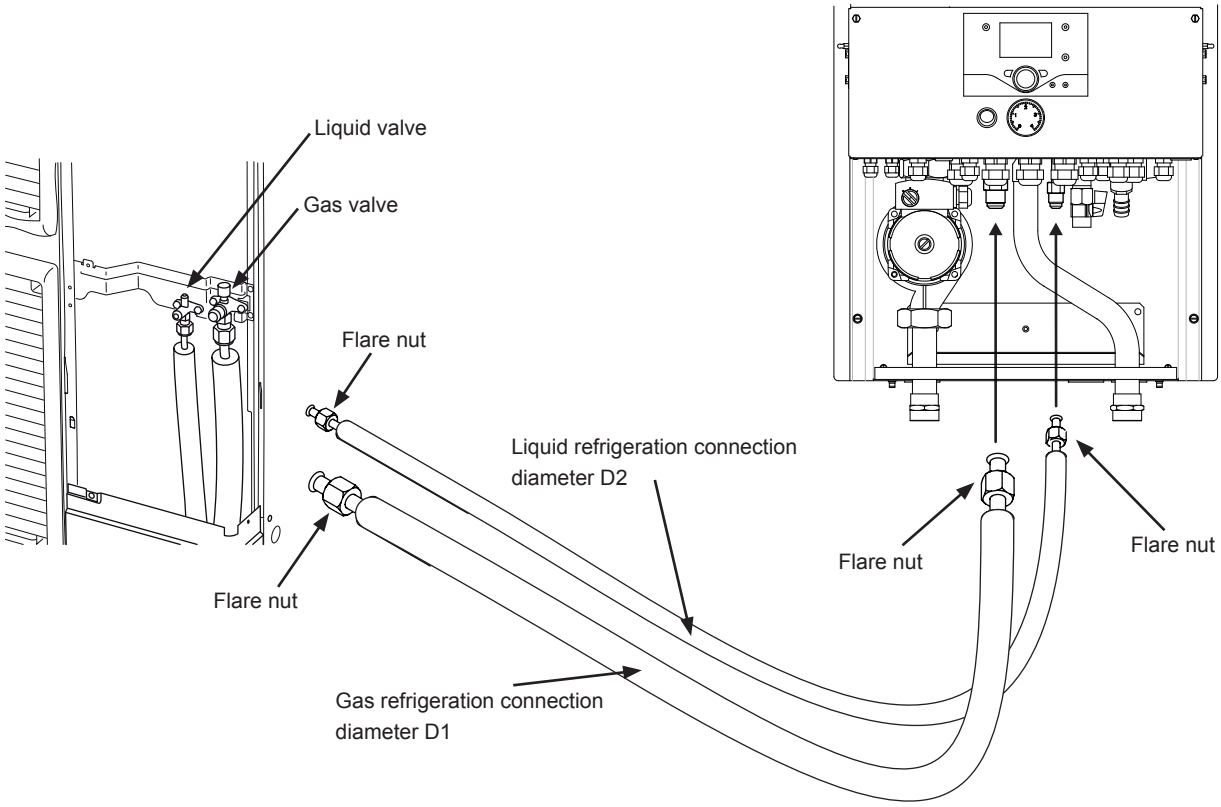


Figure 20 - Connecting the flared connections

2.7 Filling the installation with gas

☞ **This operation is reserved for installers familiar with the legislation for handling refrigerants.**

☞ **Creating a vacuum with a vacuum pump is essential.**

☞ **Never use equipment used beforehand with any refrigerant other than a HFC.**

2.7.1 Creating a vacuum and filling the refrigeration connections with gas

(see figure 21).

- Remove the protective plugs (**B**) from the charging hole (Schrader) in the gas valve (large diameter).
- Connect the blue hose (on the side with a valve pusher in good condition) from the set of manometers (manifold).
- Connect the yellow hose to a vacuum pump and open the blue valve on the set of manometers.
- Create a vacuum until the residual pressure in the circuit falls below 0.01 bar.
- Let the pump continue to operate for another 15 minutes after reaching the vacuum.
- Close the blue valve on the set of manometers and then stop the vacuum pump **without disconnecting any of the hoses in place**.
- Wait 10 minutes. If the pressure rises during this 10-minute period, there is a leak in the circuit. Trace it and repair it: then start again.

  When the pressure has remained stable for 10 minutes after the vacuum pump stops, the circuit is considered to be gas-tight.
- Remove the access plugs (**A**) from the valve controls.

☞ **If an additional charge is requires, add the additional charge before filling the hydraulic unit with gas. Please refer to the section ("Additional charge", page 20).**

- First of all fully open the small valve and then the large one using a hex key (counterclockwise direction) without forcing excessively against the stop.
- Remove the blue hose rapidly.
- Refit the 2 plugs and tighten them to the recommended tightening torque (see figure 19, page 17).

The outdoor unit does not contain any additional refrigerant, enabling the installation to be purged.

Flushing is strictly forbidden.

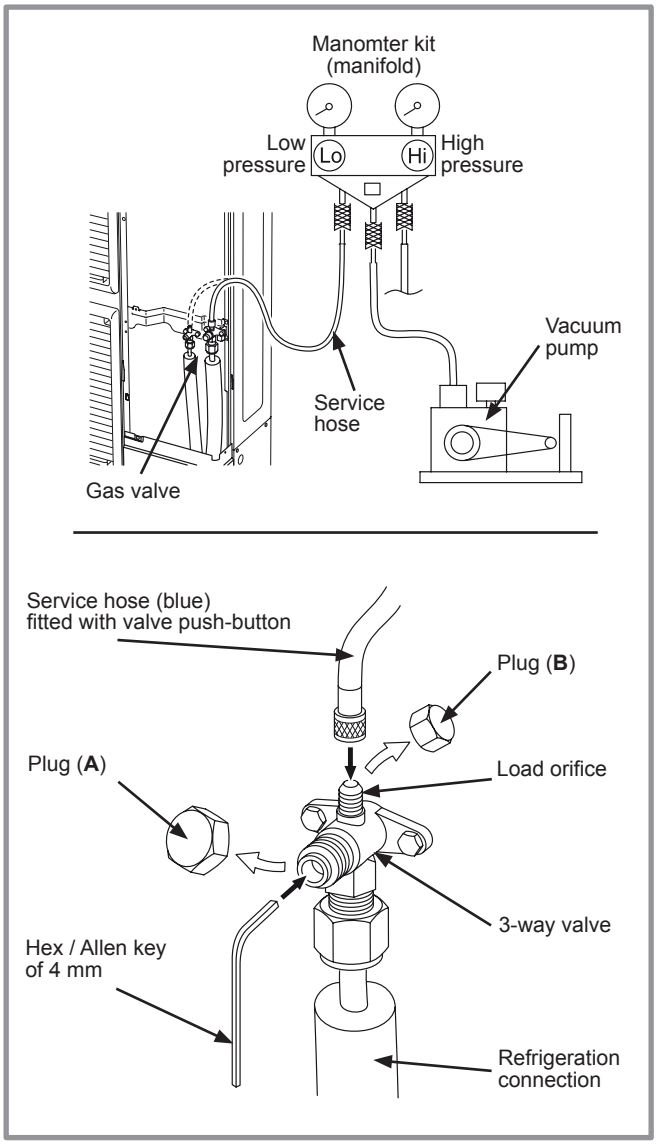


Figure 21 - Extraction under vacuum and gassing

2.7.2 Sealing test

Once the refrigeration circuit has been gassed as described above, check that all the refrigeration connectors are gas-tight.

The sealing test must be performed with an approved gas detector. If the flarings have been made correctly, there should be no leaks.

☞ **If there is a leak, make the connection again.**

2.7.3 Additional charge

	50 g of R410A per additional meter	
Length of the connections	15 m	20 m
Additional charge	none	250 g

The charge in the outdoor units corresponds to the maximum distances between the outdoor unit and the hydraulic unit defined in figure 17. If the distances are greater, an additional charge of R410A is required. The additional charge depends on the distance between the outdoor unit and the hydraulic unit for each type of appliance. The additional charge of R410A must necessarily be made by an approved refrigeration engineer.

• Example for a heat pump model 160

An outdoor unit 17 m away from the hydraulic unit will require an additional charge of :

Additional charge = (17 - 15) x 50 = 100 g.

The charge must be introduced after creating the vacuum and before the hydraulic unit is filled with gas, as follows :

- Disconnect the vacuum pump (yellow hose) and connect a bottle of R410A instead **in the liquid extraction position**.
- Open the bottle's valve.
- Bleed the yellow hose by loosening it slightly on the manifold side.
- Place the bottle on scales with a minimum accuracy of 10 g. Note the weight.
- Carefully open the blue valve slightly and check the value shown on the scales.
- As soon as the value displayed has dropped by the value for the calculated additional charge, close the bottle and disconnect it.
- Then rapidly disconnect the hose connected to the appliance.
- Proceed to fill the hydraulic unit with gas.

☞ **Warning**

• Only use R410A !

• Only use tools suitable for R410A (set of manometers).

• Always charge in the liquid phase.

• Never exceed the length or the maximum difference in level.

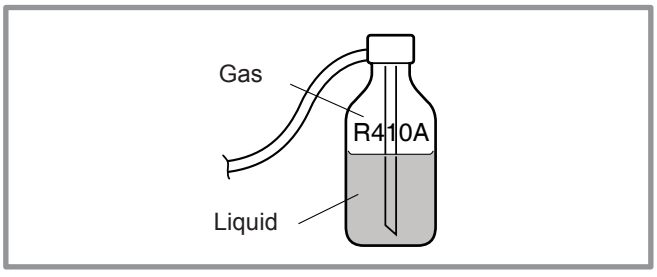


Figure 22 - Gas bottle R410A

2.7.4 Pump down (Refrigerant collecting operation)

Perform the following procedures to collect the refrigerant.

1. Turn OFF the start/stop switch.
2. Remove the front panel. Then turn ON the DIP SW 1 on the interface card.
3. Turn ON the start/stop switch. (Green and Red LED on the board start flashing ; 1 sec. on / 1 sec. off repeated)
4. The outdoor unit begins cooling operation about 3 minutes after switching ON. Close the liquid valve on the outdoor unit 1 minute after operation starts.
5. Close the gas valve on the outdoor unit 1-2 minutes after closing the liquid valve, while the outdoor unit keeps running.
6. Disconnect the power supply.

Remarks :

- Make sure to turn OFF the start/stop switch before touching DIP SW.
- The pump down operation cannot be activated even if DIP SW is changed while heat pump's power is on.
- Do not forget to turn back DIP SW 1 on the interface card to OFF, after the pump down operation has been completed.
- When the pump down operation is repeated, temporarily turn OFF the start/stop switch after opening the closed valves (both liquid and gas).
- Then turn ON the start/stop switch again after 2 - 3 minutes and perform the pump down operation.

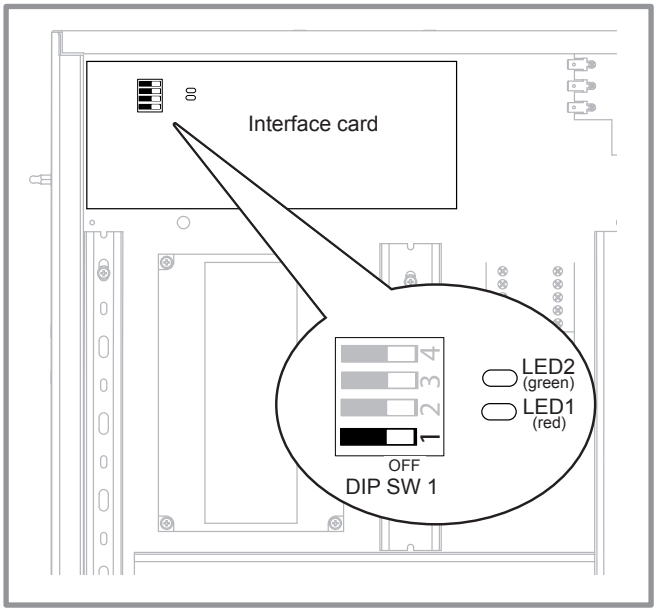


Figure 23 - Location of DIP switches and diodes on the hydraulic unit interface card

2.8 Connecting the heating circuit hydraulically

2.8.1 General

The connection must comply with good trade practice according to local building regulations.

The heating circulating pump is built into the hydraulic unit.

Connect the central heating pipes to the hydraulic unit, complying with the direction of circulation.

The diameter of the pipes between the hydraulic unit and the heating collector must be at least 1 inch (26x34mm).

Calculate the diameter of the pipes according to the flow rates and the lengths of the hydraulic systems.

Tightening torque : 15 to 35 N.m

Use union connectors to facilitate removing the hydraulic unit.

Preferentially use connection hoses to avoid transmitting noise and vibrations to the building.

Connect the drains from the drain valve and the safety valve to the main sewer system.

Reminder: Seal everything when fitting in accordance with prevailing trade practice for plumbing work :

- Use suitable seals (fibre seals, o-rings).
- Use Teflon tape or hemp.
- Use sealing paste (synthetic depending on the case).

The use of glycol is not necessary. If you are using a glycol/water mix, provide for an annual check on the quantity of glycol.

In certain installations, the presence of different metals can cause corrosion problems ; the formation of metal particles and sludge in the hydraulic circuit is then seen.

In this case, it is advisable to use a corrosion inhibitor in the proportions indicated by its manufacturer.

It is also necessary to ensure that the treated water does not become aggressive.

2.8.2 Rinsing out the installation

Before connecting the hydraulic unit to the installation, rinse out the heating system correctly to eliminate any particles that may affect the appliance's correct operation.

Do not use solvents or aromatic hydrocarbons (petrol, paraffin, etc.).

In the case of an old installation, provide a sufficiently large decanting pot with a drain on the return from the boiler and at the lowest point in the system in order to collect and remove the impurities.

Add an alkaline product to the water and a dispersant.

Rinse the installation several times before filling it definitively.

2.8.3 Filling and purging the installation

Check the pipe fixings, the tightness of the connectors and the stability of the hydraulic unit.

Check the direction in which the water is circulating and that all the valves open.

Proceed to fill the installation.

Do not operate the circulating pump while filling. Open all the drain valves in the installation and the bleeder valve for the hydraulic unit to remove the air contained in the conduits.

Close the drain and bleeder valves and add water until the pressure in the hydraulic circuit reaches 1,5 bar.

Check that the hydraulic circuit has been purged correctly.

Check that there are no leaks and that the circulating pumps are not seized (if need be, release them).

After the "Start-up" stage (see page 28), once the machine has started, purge the hydraulic unit again (2 liters of water).

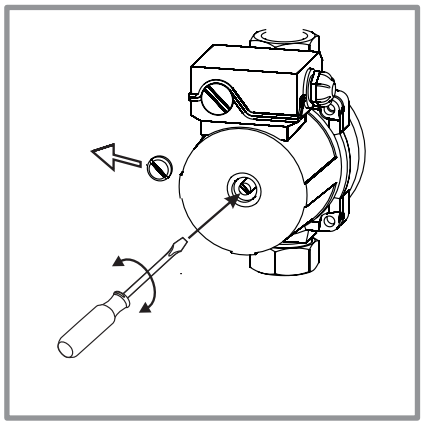


Figure 24 - Release of the circulation pump

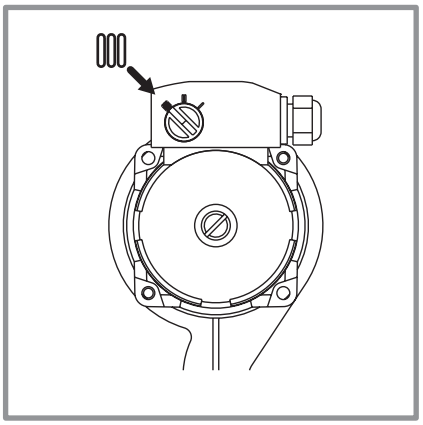


Figure 25 - Recommended circulation speed (for radiator)

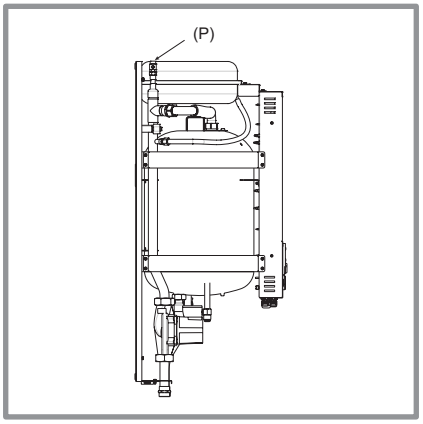


Figure 26 - Hydraulic unit bleeder valve

2.9 Electrical connections

Ensure that the general electrical power supply has been cut off before starting any repair work.

2.9.1 Characteristic of the electrical supply

The electrical installation must be conducted in accordance with the prevailing regulations.

The electrical connections must only be made when all the other fitting operations have been completed (fixing, assembly, etc.).

☞ **Warning**

The contract concluded with the energy provider must be sufficient not only to cover the heat pump's power but also the combined sum of all the appliances likely to be operating at the same time.

When the power is too low, check with your energy provider the value subscribed to in your contract.

Never use a socket for the power supply.

The heat pump must be supplied with power by special protected leads from the electric panel via 2-pole circuit breakers specially dedicated to the heat pump : Curve D for the outdoor unit, curve C for the electric heating and domestic water back-ups (see tables on page 23).

The electrical installation must necessarily be equipped with a 30mA differential protection.

This appliance is designed to operate under a nominal voltage of 400 V, +/- 10%, 50 Hz.

2.9.2 General remarks on electrical connections

It is essential to maintain the live-neutral polarity when making the electrical connections.

Tighten the screws on the terminal blocks perfectly. Unsufficient tightening can cause overheating, leading to breakdown or even a fire.

Use cable clamps to prevent the conductors from being disconnected accidentally.

Connection to Earth and Earth bonding continuity are essential.

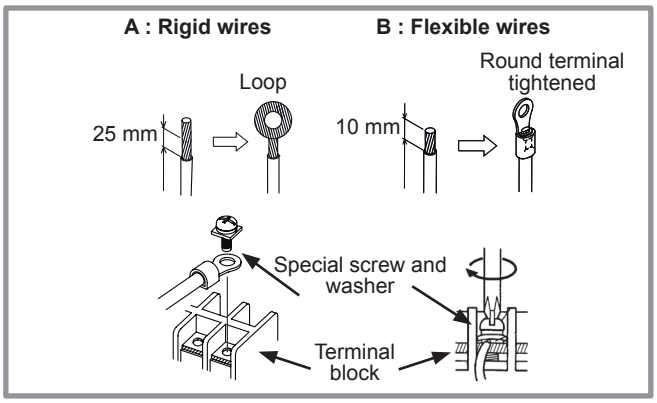


Figure 27 - Outdoor unit terminal block

• Connecting to screw terminals

Rigid wires (**A**, figure 27).

Rigid wires are always preferable for fixed installations, particularly in a building.

- Always select a wire that complies with the prevailing standards.
- Strip away around 25 mm from the end of the wire.
- With round end pliers, form a loop with a diameter corresponding to the tightening screws on the terminal.
- Tighten the terminal screw firmly onto the loop created.

Flexible wires (**B**, figure 27)

H07RNF type (or superior quality) flexible wire can be used with certain precautions :

- Strip away around 10 mm from the end of the wire.
- With tightening pliers, fit a round tag with a diameter corresponding to the terminal screw's diameter on the end of the wire.
- Tighten the tag firmly onto the terminal with a screwdriver.
- We strongly advise against using flexible wires without round tags.
- Always protect the cables when passing them through cable clamps with PVC protective conduit 0,5 to 1 mm thick.

• Connecting to regulation cards

- Remove the corresponding connector and make the connection.

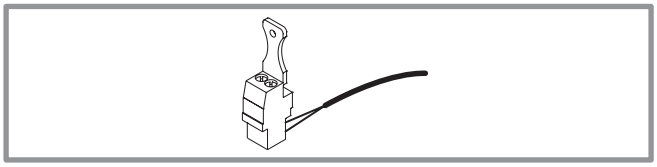


Figure 28 - Regulation connector

• Connecting to spring terminals :

Rigid wires

- Strip away around 10 mm from the end of the wire.
- Slide the wire into the opening provided for this purpose.
- Push the spring with a screwdriver so that the wire enters the cage.
- Remove the screwdriver and then check that the wire is jammed in the cage by pulling on it.

Flexible wires

- Use the ends and proceed as before.

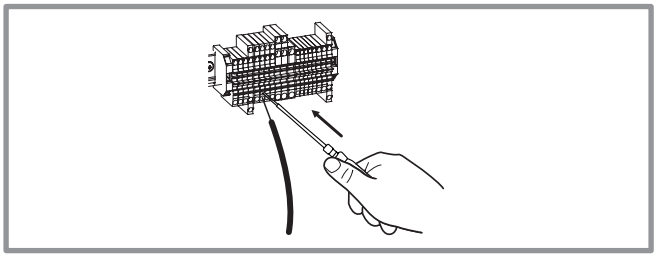


Figure 29 - Hydraulic unit terminal block

2.9.3 Overview of all the electrical connections

The wiring diagram for the hydraulic unit is shown in detail on figure 46, page 51.

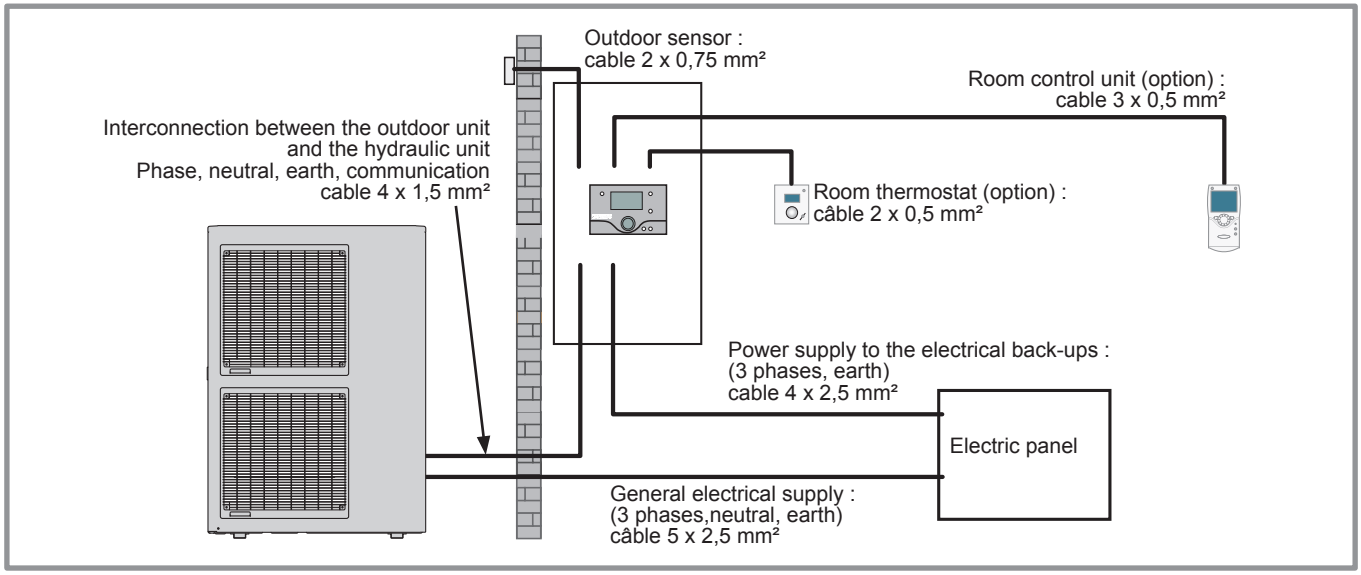

Outdoor sensor :
cable 2 x 0,75 mm²
Room control unit (option) :
cable 3 x 0,5 mm²
Interconnection between the outdoor unit
and the hydraulic unit
Phase, neutral, earth, communication
cable 4 x 1,5 mm²
Room thermostat (option) :
câble 2 x 0,5 mm²
Power supply to the electrical back-ups :
(3 phases, earth)
cable 4 x 2,5 mm²
Electric panel
General electrical supply :
(3 phases,neutral, earth)
câble 5 x 2,5 mm²

Figure 30 - Overall layout of the electrical connections for a simple installation (1 heating circuit)

2.9.4 Cable section and protection rating

The cable sections are given for information purposes only and do not exempt the installer from checking that these sections correspond to the requirements and comply with the prevailing standards.

• Power supply to outdoor unit

Heat pump		*Electricity supply 400 V - 50 Hz*	
Model	*Maximal power*	*Cable connection (3 Phase, Neutral, Earth)*	*Curve D circuit breaker size (A)*
112	5,175 kW	5 x 2,5 mm²	20 A
140	5,865 kW		
160	6,555 kW		

• Interconnection between the outdoor unit and the hydraulic unit. The hydraulic unit is powered by the outdoor unit by means of a 4 x 1,5 mm² cable (Phase, Neutral, Earth, Communication bus).

• Power supply to the electrical back-ups

The hydraulic unit contains two stages of electrical back-ups installed in a heat exchange cylinder.

	Electric back-ups		*Power supply to the electrical back-ups*	
Model	*Power*	*Nominal intensity*	*Cable connection (Phase, Neutral, Earth)*	*Curve C circuit breaker size (A)*
WSYK160DA9	9 kW	13 A	4 x 2,5 mm²	20 A

• Outdoor sensor, room thermostat and room control unit

For the outdoor sensor, use a 2 x 0,75 mm² cable.

For the room thermostat, use a 2 x 0,5 mm² telephone type cable.

For the room control unit, use a 3 x 0,5 mm² telephone type cable.

2.9.5 Electrical connections on the outdoor unit side

Access to the connection terminals.

- Remove the front panel. Remove the screws and the front panel.

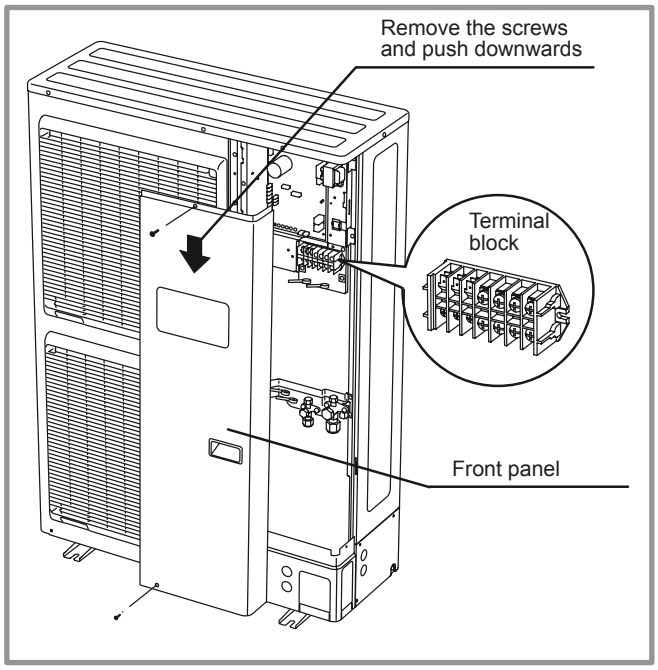


Figure 31 - Access to outdoor unit's terminal block

- Make the connections in accordance with the diagram(s) (figure 37, page 26).

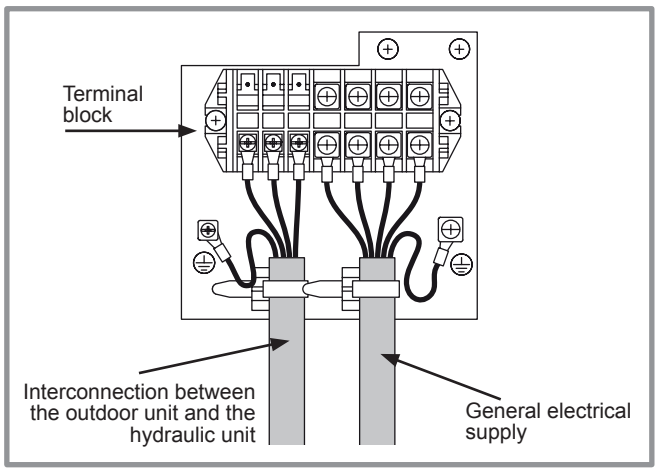


Figure 34 - Connections to outdoor unit's terminal block

- Use cable clamps to prevent the conductors from being disconnected accidentally.
- Fill in the space where the cables enter the outdoor unit with the insulating plate.

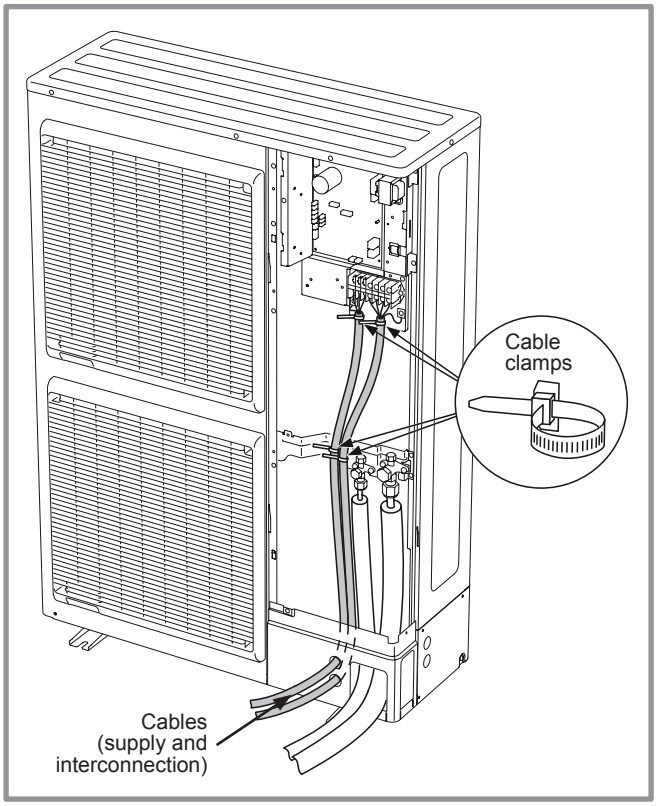


Figure 32 - Finalisation of connection to outdoor unit

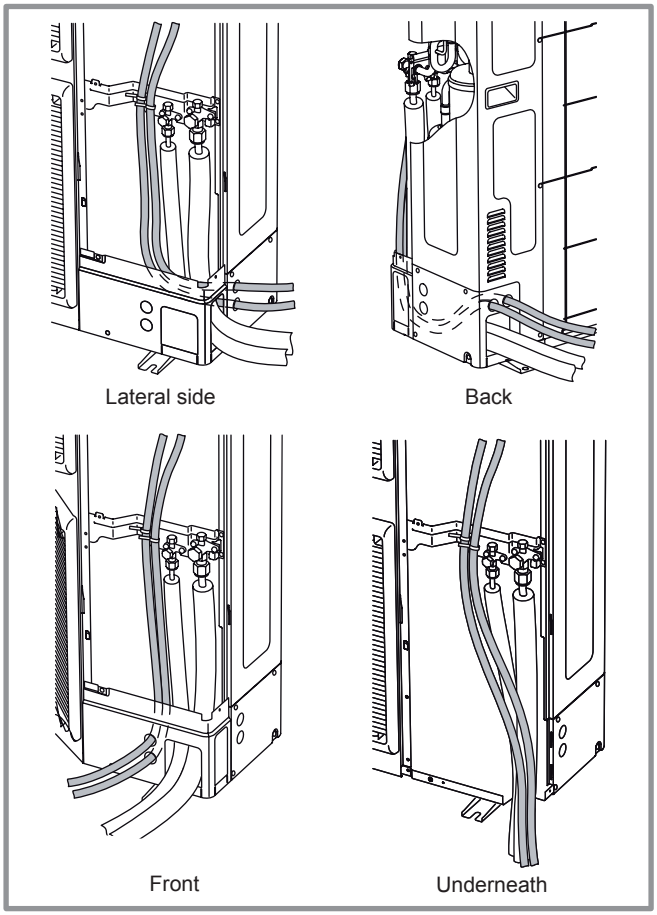


Figure 33 - Location of electrical cables and refrigeration connections to outdoor unit

2.9.6 Electrical connections on the hydraulic unit side

Access to the connection terminals.

- Remove the front panel (2 screws) (figure 14, page 15).
- Remove the cover of the electric box.
- Make the connections in accordance with the diagram(s) figure 37, page 26.

Do not place the sensor lines and the sector supply lines in parallel in order to avoid causing inadvertent interference due to voltage points in the sector supply.

Ensure that all the electrical cables are housed in the spaces provided for this purpose inside the lifting handles.

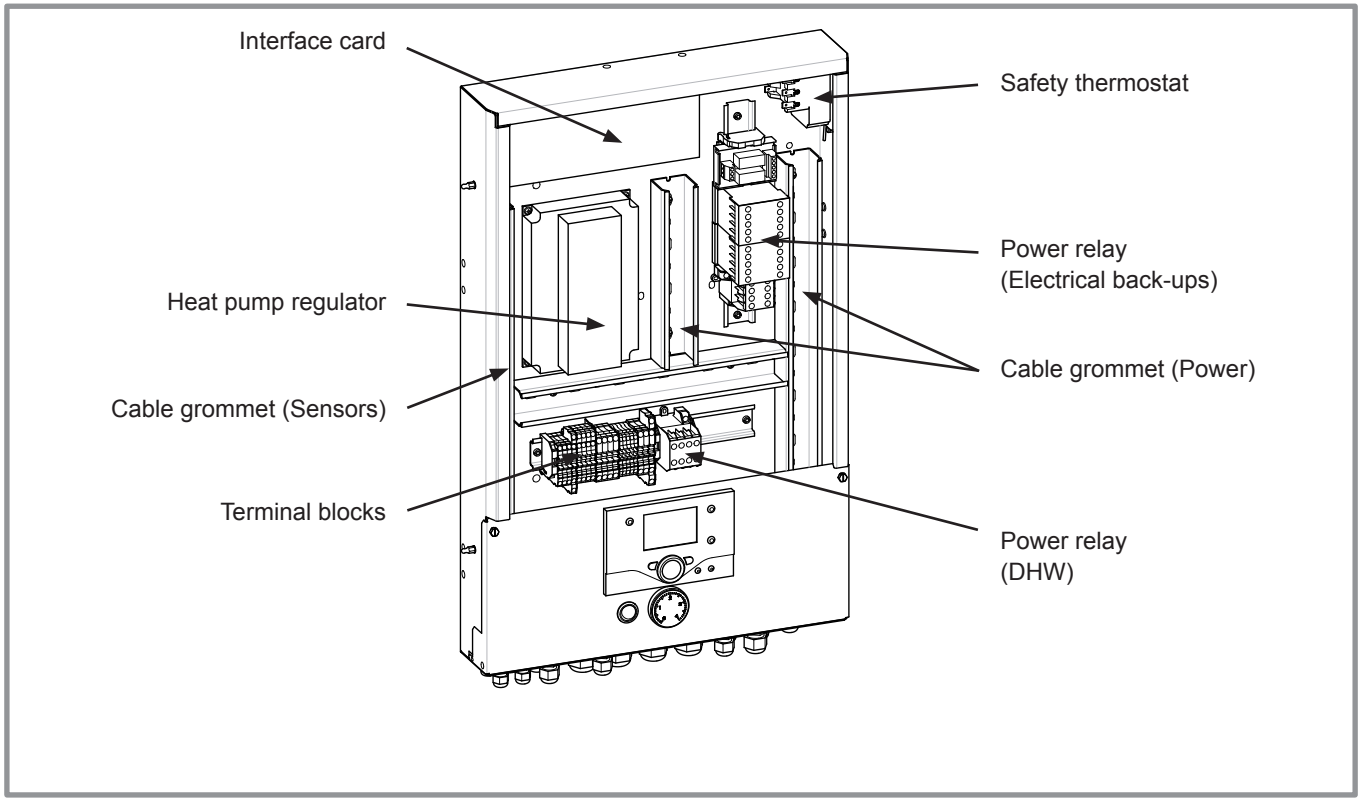


Figure 35 - Access to hydraulic unit electric box and description

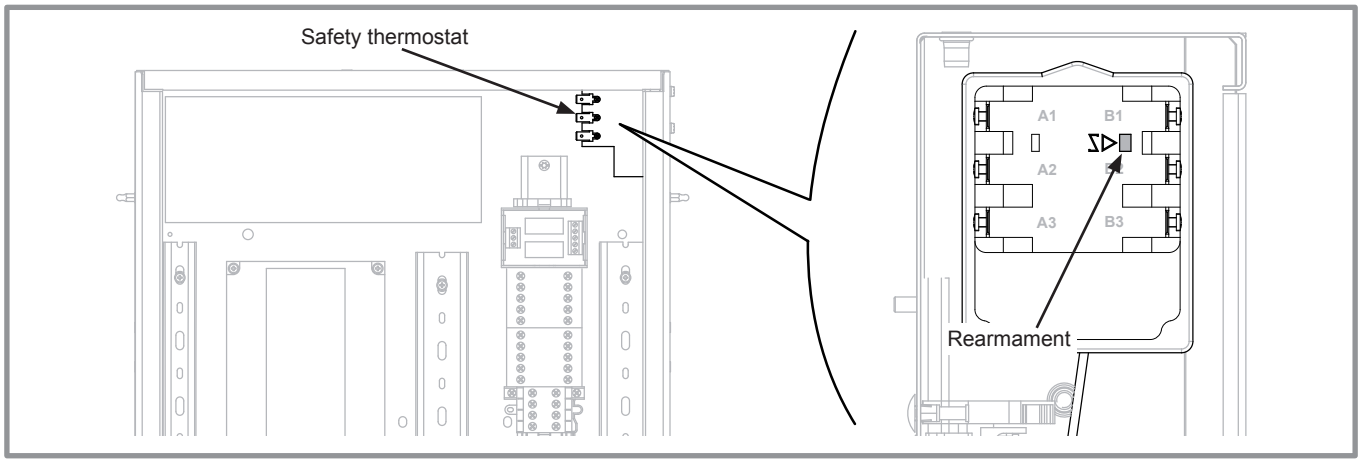


Figure 36 - Access to reset the safety thermostat

☞ **Ensure that the general electrical power supply has been cut off before starting any repair work.**

☞ **The rearmament of safety thermostat should be done by a professional.**

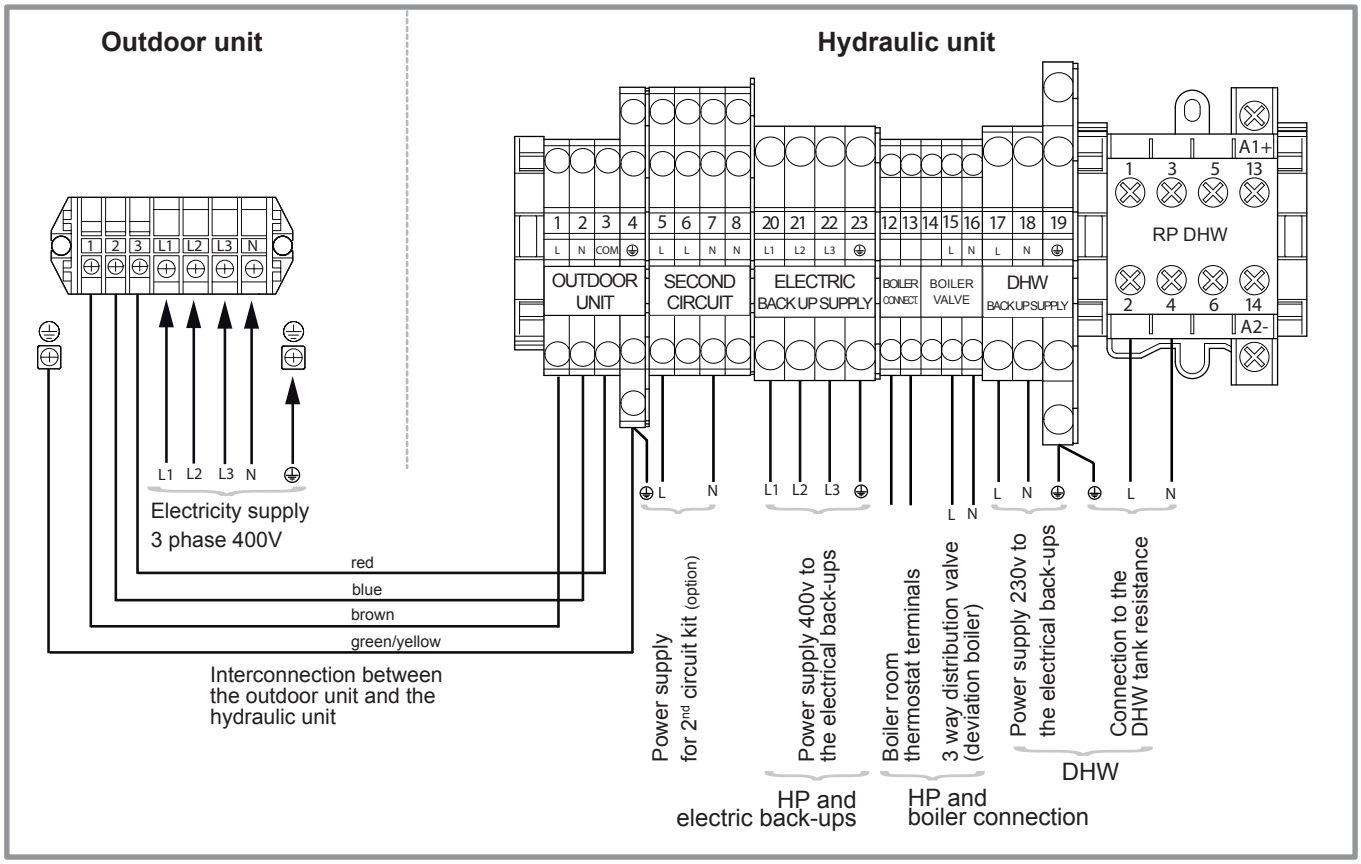


Figure 37 - Connection to terminal block and power relays

• Interconnection between the outdoor unit and the hydraulic unit :

Comply with the correspondence between the markings on the hydraulic unit's terminals and those on the outdoor unit when connecting the interconnection cables.

A connection error could cause the destruction of one or other of the units.

• Electric back-ups :

If the heat pump is not installed with a boiler connection :

- Connect the electrical supply for the back-ups (terminals 20, 21, 22 and 23) to the electrical panel.

• Boiler connection :

- Please refer to the instructions supplied with the boiler connection kit.
- Please refer to the instructions supplied with the boiler.

• Domectic hot water tank :

If the installation is fitted with a DHW tank with electrical back-up heating :

- Please refer to the instructions supplied with the DHW kit.
- Please refer to the instructions supplied with the DHW tank.

• Second heating circuit :

- Please refer to the instructions supplied with the second circuit kit.

• Contract with the power provider :

The heat pump's operation can be controlled to suit special contracts (e.g. off-peak, day/night).

In particular, domestic hot water (DHW) at Nominal temperature will be produced during the off-peak hours when electricity is cheaper.

- Connect the "Power Provider" contact to input EX5.
- Set the parameter (1620) to "Off-peak hours".

• 230V on input EX5 = "Peak hours" information activated (Basic setting / Modification possible line 5989, menu Configuration).

• Power limitation or EJP (peak day removal) :

Power limitation is intended to reduce electrical consumption when this is too high compared to the contract with the power provider.

- Connect the power limiting device to input EX4, the back-ups for the heat pump and the DHW stop in the event of over-consumption by the dwelling.

• 230 V on input EX4 = power limitation in progress. (Basic setting / Modification possible line 5987, menu Configuration). (Operating line 2920)

• External faults the heat pump :

Any component of carryforward of information (thermostat, pressure switch, etc.) may signal an external problem and stop the heat pump.

- Connect the external component to input EX6.

• 230 V on input EX6 = stoppage of heat pump (the system displays Error 369).

- In the case of a heated floor, Connect the floor heating safety device into the connector of the floor heating pump (QX3 - circuit 1, QX23 - circuits 2).

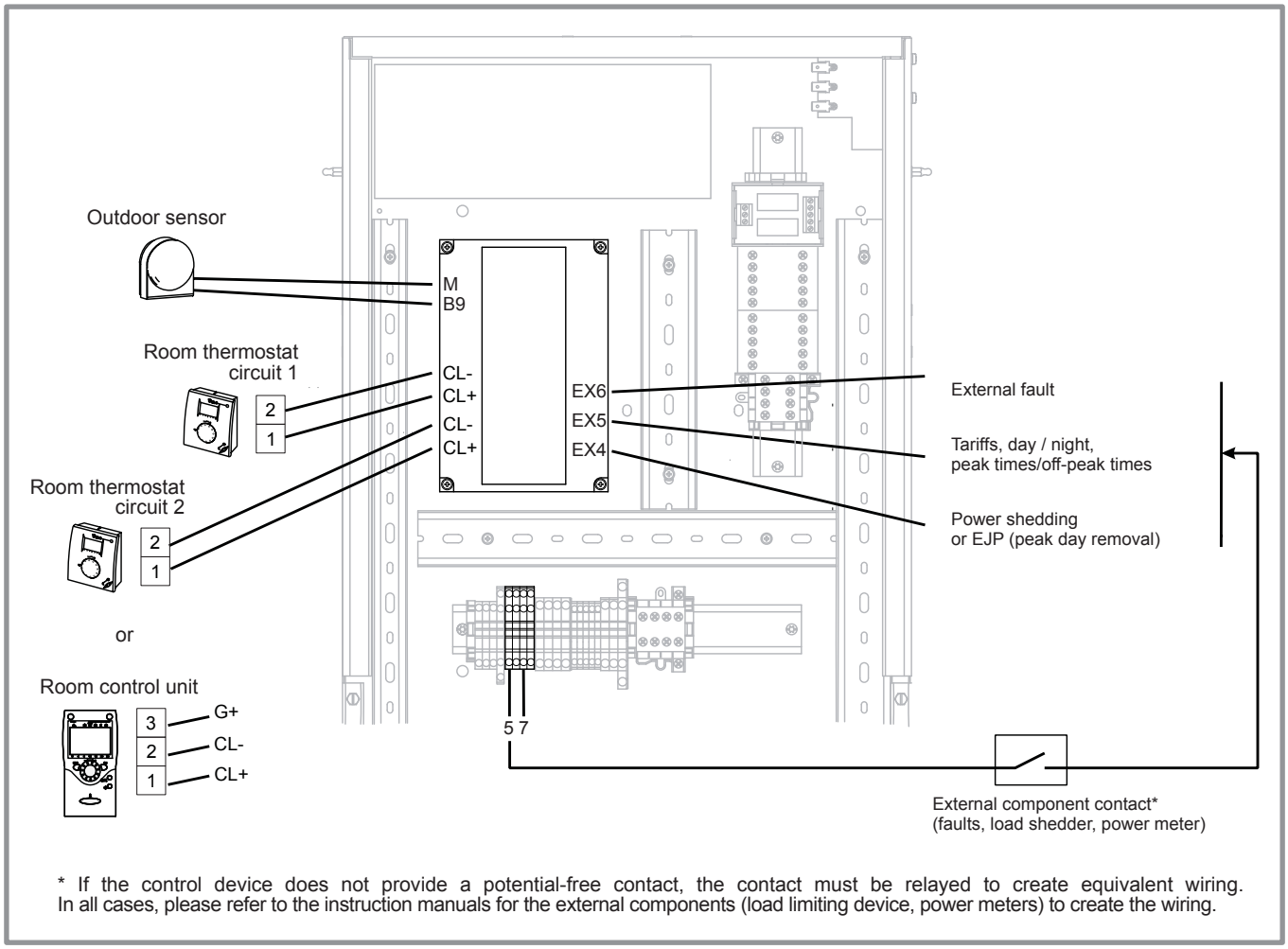


Figure 38 - Connections to the heat pump regulator (accessories and options)

2.10 Outdoor sensor

The outdoor sensor is required for the heat pump to operate correctly.

Consult the fitting instructions on the sensor's packaging.

Place the sensor on the coldest part, generally the northern or north-eastern side.

In any case, it must not be exposed to the morning sun.

It must be installed so as to be easily accessible but at least 2,5 m from the floor.

It is essential that it avoid any sources of heat such as flues, the upper parts of doors and windows, proximity to extraction vents, the underneath of balconies and under-eave areas which would isolate the sensor from variations in the outdoor air temperature.

- Connect the outdoor sensor to the M and B9 terminals on the heat pump control board.

2.11 Room thermostat and/or room control unit

The room thermostat (room control unit) is optional.

Consult the fitting instructions on the sensor's packaging.

The sensor must be installed in the living room area on a very uncluttered wall, 1,5 m above the floor.

Avoid direct sources of heat (chimney/flue, television, cooking hobs), draughty areas (ventilation, door, etc.).

Air leaks in the seals in the constructions are often translated into cold air blowing through the electrical conduits. Lag the electrical conduits if there is a cold draught on the back of the IR sensor.

• Installation equipped with two room thermostats.

- Connect each of the sensors to one of the CL+ or CL- terminals on the heat pump control board using the connector supplied.

• Installation equipped with a room thermostat and a room control unit.

- Connect the sensor to one of the CL+ or CL- terminals on the heat pump control board.
- Connect the room control unit to the other CL+, CL- terminals and to G+.

2.12 Start-up

- Make sure that ALL DIP SW are OFF before starting up. DIP SW shuold be set OFF for normal operation. Power supply to the hydraulic unit must be turned off while toching DIP SW.
- Close the installation's main circuit breaker.

  On first commissioning (or in winter), in order to allow the compressor to pre-heat, engage the installation's main circuit breaker (power supply to the outdoor unit) some hours before starting up the tests.
- Engage the start/stop switch.

  To ensure that inputs EX4, EX5 and EX6 operate correctly : Check that the live-neutral polarity of the electrical supply is correct.

When the power is switched on and every time that the ON/OFF button is switched off and then switched on again, the outdoor unit will take approximately 4 minutes to start up, even if the setting is requesting heating.

The display can show error 370 when the appliance (re)starts. Do not be concerned, the communication between the outdoor and hydraulic unit will re-establish itself in a few moments.

During the regulator initialisation phase, the display shows all the symbols and then "Data, update" and then "State heat pump".

- Make all the specific adjustments to the setting (configuring the installation).
- Press the key OK.
- Hold down the key i for 3s and select the level of access used with the aid of the knob.
- Confirm with the key OK.

Parameter the heat pump's setting (consult the settings' list page 32).

On commissioning (or the case of error 10), the electrical backup heaters are liable to start up even if the outdoor temperature at the time is above the heaters' trigger temperature.

The regulating system uses an average initial outdoor temperature of 0°C and requires some time to update this temperature.

To mitigate this situation, the sensor must be connected correctly. Re-initialise parameter 8703 (implementation level, consumer diagnostic menu).

2.13 Configuring the room thermostat

To configure the room thermostat and connect it to the appropriate heating zone :

- Hold down the presence key for more than 3 seconds. The room thermostat displays RU and a number flashes.
- Turn the wheel to choose the zone (1, 2).

  ☞ **If the installation is fitted with 2 room thermostats,**
  - First connect one room thermostat and configure it in zone 2
  - Then connect the other room thermostat and configure it as default in zone 1.
- Hold down the presence key ; the room thermostat displays P1 and a flashing number. 1 : Automatic recording : a correction of the setting with the button is adopted without any particular confirmation (timeout) or by pressing the regime key. 2 : Recording with confirmation : a correction of the setting with the button is not adopted until the regime key is pressed.
- Press the presence key again ; the room thermostat displays P2 and a flashing number. 0 : OFF : all the operating elements are engaged. 1 : ON : the following operating elements are locked :

  Switching over the heating circuit's operating mode.
  Adjusting the comfort setting.
  Changing the operating level.

The room thermostat displays OFF for 3 seconds when a locked button is pressed.

2.14 Configuring room control unit

During commissioning, after an initialisation period of approx. 3 minutes, the user's language must be set :

- Press the key OK.
- Choose menu "User interface".
- Choose language.
- Select the language (**english**, français, nederlands, español, etc).

3 Regulation system

3.1 User interface and room control unit (option)

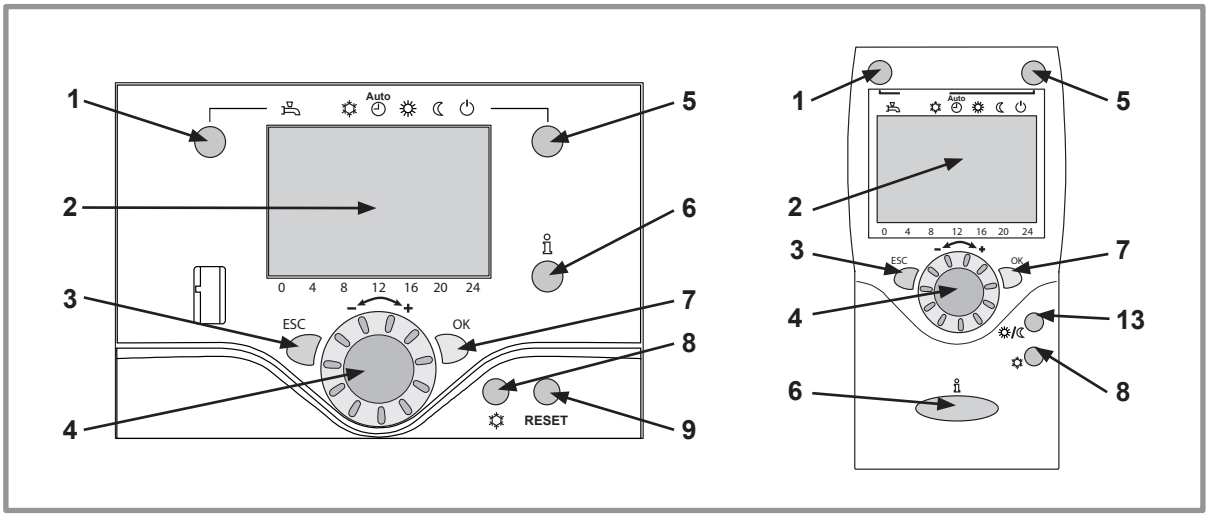


Figure 39 -

Ref.	*Function*	*- Definitions*
1	Selecting of the DHW operating mode (Domestic hot water). On Off	- If the installation is fitted with a DHW tank. - On : Production of DHW according to the time program. - Off : Preparing the domestic hot water for stopping with the anti-frost function active. - Manual start button : Hold down the DHW key for 3 seconds. Switch from "reduced" to "comfort" until the next time the DHW timer switches over.
2	Digital display.	- Operating control. Readout of the current temperature, of the heating mode and of any faults . - View the settings.
3	Exit "ESC".	- Quit the menu.
4	Navigation and setting.	- Selecting the menu. - Setting parameters. - Adjusting the ambient temperature setpoint.
5	Selecting the heating mode.	- Heating operating according to the heating programme (Summer/winter mode switchover is automatic). - Constant comfort temperature. - Constant reduced temperature. - Stand-by mode with anti-frost protection (Provided that the heat pump's electrical power supply is not interrupted).
6	Information display.	- Various data (please see page 52). - Reading error codes (please see page 53). - Information concerning maintenance, special mode.
7	Confirm "OK".	- Input into the selected menu. - Confirmation of the parameter settings. - Confirmation of the adjustment to the comfort temperature setting.
8	Selecting cooling mode.	- If the installation is fitted with the cooling kit : - Cooling operating according to the heating programme (Summer/winter mode switchover is automatic).
9	RESET button (Hold down the "RESET" key for 3 sec).	- Reinitialising the parameters and cancelling error messages. **Do not use during normal operation.**

3.2 Room thermostat (option)

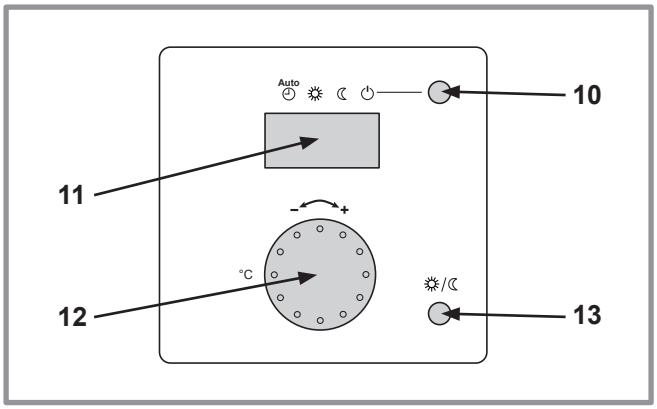


Figure 40 - Room thermostat (option)

Ref.	*Function*	*- Definitions*
10	Selecting the heating mode.	- Auto Heating operating according to the heating programme (Summer/winter mode switchover is automatic). - ☼ Constant comfort temperature. - ☾ Constant reduced temperature. - ⏻ Stand-by mode with anti-frost protection (Provided that the heat pump's electrical power supply is not interrupted).
11	Digital display.	- Operating control. Readout of the current temperature, of the heating mode and of any faults 🔔 .
12	Control knob.	- Adjusting the ambient temperature setpoint.
13	Presence key.	- Comfort / Reduced switchover.

3.3 Temperature control

The heat pump's operation is subject to the temperature control.

The set temperature for the water in the heating circuit is adjusted according to the outdoor temperature.

The temperature control may be chosen automatically by the machine (self-adaptation) or set manually by the installer (Parameters 720, 721 and 726).

If there are thermostatic valves on the installation, these must be fully open or adjusted for higher than the normal set temperature.

3.3.1 Manual adjustment

During installation, the temperature control must be parametered according to the heat emitters and the dwelling's insulation.

The temperature control' curves (figure 41) refer to an ambient setting of 20°C.

The slope of the temperature control (parameter 720) determines the impact of the variations in the outdoor temperature on the initial heating temperature variations.

The higher the slope, the more a slight reduction in the outdoor temperature causes a significant increase in the initial water temperature in the heating circuit.

The off-set in the temperature control (parameter 721) alters the initial temperature of all the curves, without altering the slope (figure 42).

The corrective actions in the case of any inconvenience are detailed in the table (figure 43).

3.3.2 Self-adaptation

When this function is active (parameter 726), the temperature control are automatically adjusted ; it is therefore futile to alter the slope or the off-set in the temperature control (parameters 720 and 721).

When this function is first activated, the end user may experience some inconvenience for a few days. This period of no more than a week is required by the regulator to determine the slope and off-set in the temperature control.

We advise against changing the temperature settings during this period.

The following instructions must be observed for the self-adaptation system to operate correctly :

- A room thermostat must be connected.
- The influence of the ambient temperature (parameter 750) must be set between 1 and 100%.
- Depending on the installation, the room thermostat may have a greater or lesser influence on the temperature control.
- The room in which the room thermostat is installed must not contain any thermostatic valves. If this is the case, the valves must be open fully.

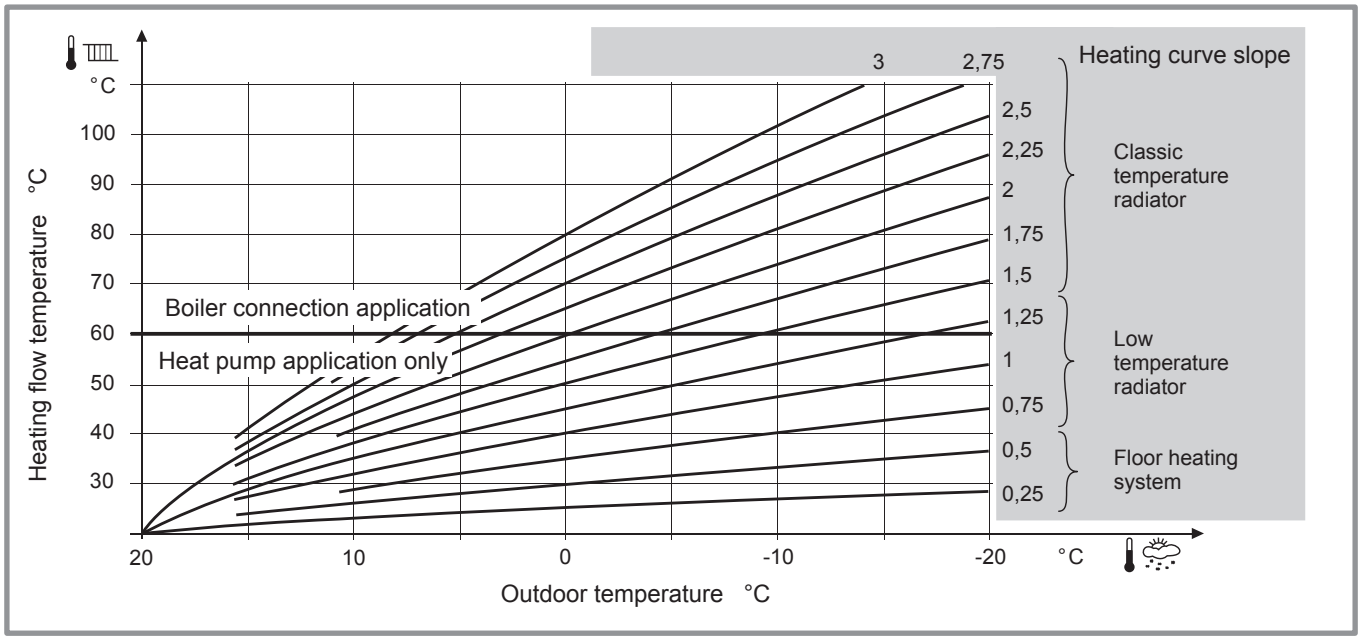


Figure 41 - Heating curve slope (line 720)

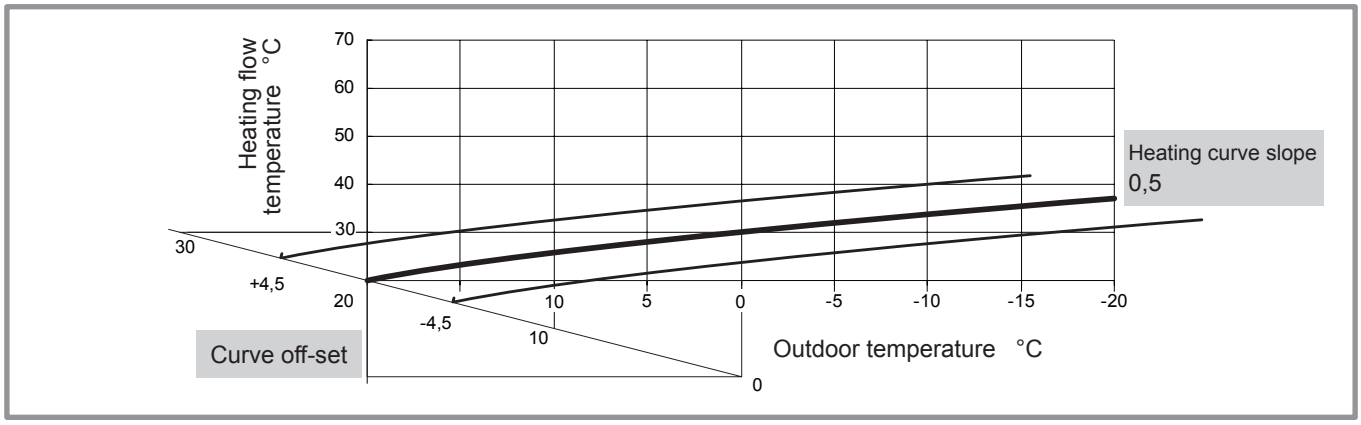


Figure 42 - Off-set of the heating curve (line 721)

Sensations... ...in mild weather		...in cold weather	→ Corrective actions on the temperature control : Curve slope (line **720**)	Curve off-set (line **721**)
OK	&	OK	→ No correction	No correction
Cold	&	Hot	→ −	+
Cold	&	OK	→ −	+
Cold	&	Cold	→ No correction	+
OK	&	Hot	→ −	No correction
OK	&	Cold	→ +	No correction
Hot	&	Hot	→ No correction	−
Hot	&	OK	→ +	−
Hot	&	Cold	→ +	−

Figure 43 - Corrective actions in the case of discomfort

3.4 Parametering the setting

3.4.1 General

Only the parameters accessible to levels :

U - End user.

I - Commissioning level.

S - Engineer level.

Are described in this document.

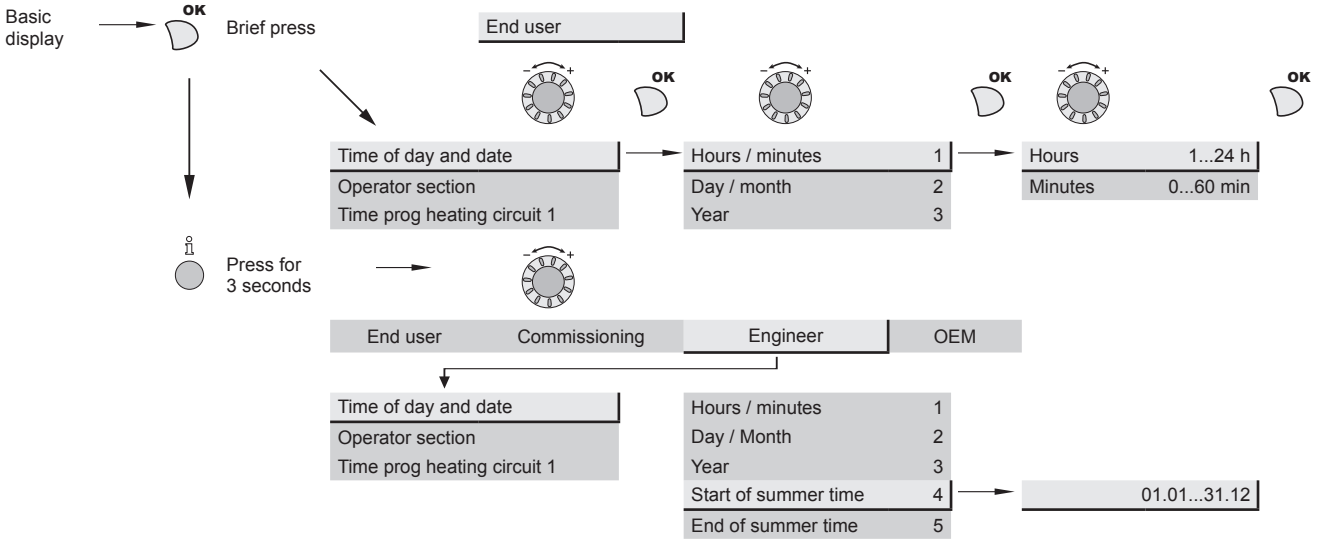
The access levels are specified in the second column of the table by means of the letters **U**, **I** and **S**.

The OEM parameters are not described and require a manufacturer's access code.

3.4.2 Setting parameters

- Choose the desired level.
- Scroll the menu list.
- Choose the desired menu.
- Scroll the function lines.
- Choose the desired line.
- Adjust the parameter.
- Check the setting by pressing **OK**.
- To return the menu, press **ESC**.

If no setting is made for 8 minutes, the screen returns automatically to the basic display.



3.4.3 List of function lines (settings, diagnosis, status)

Line		*Function*	*Setting range or display*	*Setting increment*	*Base setting*
Date and time					
1	**U**	Hours / Minutes	00:00... 23:59	1	
2	**U**	Day / Month	01.01... 31.12	1	
3	**U**	Year	1900... 2099	1	
5	**S**	Start of summer time (Day / Month)	01.01... 31.12	1	**25.03**
6	**S**	End of summer time (Day / Month)	01.01... 31.12	1	**25.10**
		The change of hour will appear at 3:00 am first Sunday after the regulated date.			
User interface					
20	**U**	Language	English, Français, Italiano, Nederlands		**English**
22	**S**	Info	Temporary | Permanent		**Temporary**
26	**S**	Operation locking	On | Off		**Off**
27	**S**	Programming locking	Off | On		**Off**
28	**I**	Direct adjustment	Automatic storage... Storage with confirmation		**Storage with confirmation**

Line		*Function*	*Setting range or display*	*Setting increment*	*Basic setting*
44	**I**	Operation HC2 (command HC2)	Commonly with HC1, Independent		**Commonly with HC1**
		Commonly with HC1 or Independent : This function enables you to choose whether you wish the room thermostat (as an option) to act on both zones or just a single zone.			
46	**I**	Operation HCP (domestic hot water pump command, output QX2)			**Commonly with HC1**
		Commonly with HC1 or Independent (if independent, see timer program 3 / HCP)			
70	**S**	Software version (Display)			
Heating time programme, circuit 1					
500	**U**	Pre-selection (Day / Week) Mon-Sun Mon-Fri Sat-Sun Monday Tuesday…			**Mon-Sun**
501	**U**	1st phase On (start)	00:00... --:--	10 min	**6:00**
502	**U**	1st phase Off (end)	00:00... --:--	10 min	**22:00**
503	**U**	2nd phase On (start)	00:00... --:--	10 min	**--:--**
504	**U**	2nd phase Off (end)	00:00... --:--	10 min	**--:--**
505	**U**	3rd phase On (start)	00:00... --:--	10 min	**--:--**
506	**U**	3rd phase Off (end)	00:00... --:--	10 min	**--:--**
516	**U**	Default values, Circuit 1	No, Yes		**No**
		Yes + OK : The Default values memorised in the regulator replace and cancel the customised heating programmes. Your customised settings are therefore lost.			
Heating time programme, circuit 2					
		Only with the 2nd circuit kit option			
520	**U**	Pre-selection (Day / Week) Mon-Sun Mon-Fri Sat-Sun Monday Tuesday…			**Mon-Sun**
521	**U**	1st phase On (start)	00:00... --:--	10 min	**6:00**
522	**U**	1st phase Off (end)	00:00... --:--	10 min	**22:00**
523	**U**	2nd phase On (start)	00:00... --:--	10 min	**--:--**
524	**U**	2nd phase Off (end)	00:00... --:--	10 min	**--:--**
525	**U**	3rd phase On (start)	00:00... --:--	10 min	**--:--**
526	**U**	3rd phase Off (end)	00:00... --:--	10 min	**--:--**
536	**U**	Default values, Circuit 2	No, Yes		**No**
		Yes + OK : The Default values memorised in the regulator replace and cancel the customised heating programmes. Your customised settings are therefore lost.			
Programme 3/ HCP					
		Domestic hot water pump program, lines 540 to 556.			
Time programme 4 / DHW					
		If the installation is fitted with a DHW tank. (Only with the DHW kit option).			
560	**U**	Pre-selection (Day / Week) Mon-Sun Mon-Fri Sat-Sun Monday Tuesday…			**Mon-Sun**
561	**U**	1st phase On (start)	00:00... --:--	10 min	**00:00**
562	**U**	1st phase Off (end)	00:00... --:--	10 min	**05:00**
563	**U**	2nd phase On (start)	00:00... --:--	10 min	**--:--**
564	**U**	2nd phase Off (end)	00:00... --:--	10 min	**--:--**
565	**U**	3rd phase On (start)	00:00... --:--	10 min	**--:--**
566	**U**	3rd phase Off (end)	00:00... --:--	10 min	**--:--**
576	**U**	Default values	No, Yes		**No**

Line		Function	Setting range or display	Setting increment	Basic setting
Time programme 5 / Cooling					
		If the installation is fitted with the cooling kit (Only with the cooling kit option).			
600	**U**	Pre-selection (Day / Week) Mon-Sun Mon-Fri Sat-Sun Monday Tuesday…			**Mon-Sun**
601	**U**	1st phase On (start)	00:00... --:--	10 min	**8:00**
602	**U**	1st phase Off (end)	00:00... --:--	10 min	**20:00**
603	**U**	2nd phase On (start)	00:00... --:--	10 min	**--:--**
604	**U**	2nd phase Off (end)	00:00... --:--	10 min	**--:--**
605	**U**	3rd phase On (start)	00:00... --:--	10 min	**--:--**
606	**U**	3rd phase Off (end)	00:00... --:--	10 min	**--:--**
616	**U**	Default values	No, Yes		**No**
		Yes + OK : The Default values memorised in the regulator replace and cancel the customised heating programmes. Your customised settings are therefore lost.			
Holidays, heating circuit 1					
641	**U**	Preselection	Period 1 to 8		**Period 1**
642	**U**	Start (Day / Month)	01.01... 31.12	1	
643	**U**	End (Day / Month)	01.01... 31.12	1	
648	**U**	Operating level (during the holidays)	Frost protection, Reduced		**Frost protection**
Holidays, heating circuit 2					
		If the installation consists of 2 heating circuits (Only with the 2nd circuit kit option)			
651	**U**	Preselection	Period 1 to 8		**Period 1**
652	**U**	Start (Day / Month)	01.01... 31.12	1	
653	**U**	End (Day / Month)	01.01... 31.12	1	
658	**U**	Operating level (during the holidays)	Frost protection, Reduced		**Frost protection**
Heating, circuit 1					
710	**U**	Comfort heating setpoint	from reduced setpoint to 35°C	0,5 °C	**20 °C**
712	**U**	Reduced setpoint	from frost protection setpoint… to comfort setpoint	0,5 °C	**18 °C**
714	**U**	Frost protection setpoint	from 4°C… to reduced setpoint	0,5 °C	**8 °C**
716	**S**	Comfort setpoint max	20 °C... 35 °C	1 °C	**28 °C**
720	**I**	Heating curve slope (See figure 41).	0,1... 4	0,02	**0,5**
721	**I**	Heating curve displacement	-4,5 °C... 4,5 °C	0,5 °C	**0**
726	**I**	Heating curve adaption (see § 3.3.2)	Off, On		**Off**
730	**I**	Summer / Winter heating limits	8 °C... 30 °C	0,5 °C	**18 °C**
		When the average of the outdoor temperatures over the past 24 hours reaches 18°C, the regulator switches off the heating (as an economy measure). During summer mode, the display shows "Eco". This function is only active in automatic mode.			
732	**S**	24-hour heating limit	-10 °C... 10 °C	1 °C	**-3 °C**
		This function enables you partially to offset the automatic summer / winter switchover during the intermediate seasons. Increasing the value delays the switchover to summer regime. Decreasing the value advances the switchover to summer regime. This function is only active in automatic mode.			
740	**S**	Flow temp setpoint min (for fan convectors)	8... 95 °C	1 °C	**8 °C**

Line		Function	Setting range or display	Setting increment	Basic setting
741	S	Flow temp setpoint max	8... 95 °C	1 °C	**55 °C**
		Floor heating system = 50 °C / Higher temperature radiator = 65 °C			
750	S	Room influence	1%... 100%	1%	**20%**
		If the installation is fitted with a room thermostat : This function enables you to choose the ambient temperature's influence on the setting. If no value is entered, the setting is made based on the temperature control. If the parameter is set at 100%, the setting is only based on the ambient temperature.			
790	S	Optimum start control max (Early start to switch to the comfort setting.).	0... 360 min	10 min	**120 min**
791	S	Optimum stop control max (Early stop to switch from the comfort setting to the reduced setting.).	0... 360 min	10 min	**120 min**
800	S	Reduced setp increase start	-30... 10 °C	1 °C	**--**
801	S	Reduced setp increase end	-30... 10 °C	1 °C	**-5 °C**
830	S	Mixer valve boost	0... 50 °C	1 °C	**0**
834	S	Actuator running time	30... 873 s	1 s	**240 s**
850	I	Floor curing function (figure 44)			**Off**
		- Off : Early interruption of the current programme, programme inactive - Functional heating - Heating ready for occupation - Functional heating + curing heating - Curing heating + Functional heating - Manually Manual mode enables you to programme your own concrete slab drying time.The function ends automatically after 25 days.			
851	I	Floor curing setp manually (if line 850 = manual)	0... 95 °C	1 °C	**25 °C**
		This function enables you to set the custom concrete slab drying temperature. This temperature remains fixed. The concrete slab-drying programme stops automatically after running for 25 days.			
856	I	Floor curing day current	0... 32		
857	I	Days complete.current	0... 32		
900	S	Operating mode changeover	None, Protection mode, Reduced, Comfort, Automatic	1	**Protection mode**
		Operating mode at end of concrete slab drying period			

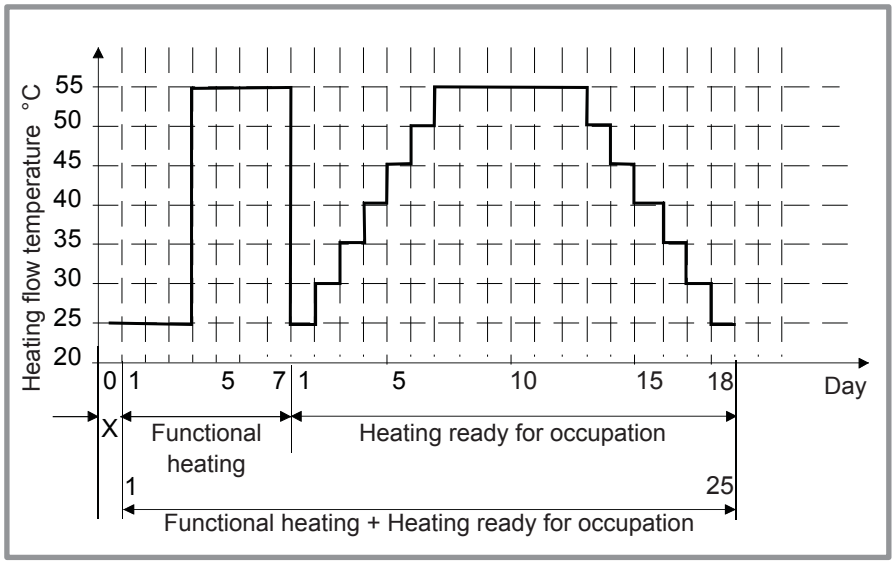


Figure 44 - Diagram of the concrete slab drying programmes

☞ **Please comply with the standards and instructions of the manufacturer of the building! A good performance of this function is only possible with an installation correctly implemented (hydraulic, electricity and adjustments)! This function can be stopped by anticipation when setting the adjustment on "Stop".**

Line		*Function*	*Setting range or display*	*Setting increment*	*Basic setting*
Cooling circuit 1					
901	**U**	Operating mode	Off, Automatic		**Off**
902	**U**	Comfort cooling setpoint	17... 40 °C	0,5 °C	**24 °C**
907	**U**	Release	24h/day, Time program HC, Time program 5 / Refresh		**Time program 5**
908	**I**	Flow temp setp at OT° 25°C	6... 35 °C	0,5 °C	**20 °C**
909	**I**	Flow temp setp at OT° 35°C	6... 35 °C	0,5 °C	**16 °C**
912	**I**	Cooling limit at OT°	--, 8... 35 °C	0,5 °C	**24 °C**
913	**S**	Lock time at end of heating	--, 8... 100	1 h	**24 h**
918	**S**	Summer comp start at OT°	20... 50 °C	1 °C	**26 °C**
919	**S**	Summer comp end at OT°	20... 50 °C	1 °C	**40 °C**
920	**S**	Summer comp setp increase	--, 1... 10 °C	1 °C	**4 °C**
923	**S**	Flow temp setp min OT° 25°C	6... 35 °C	0,5 °C	**18 °C**
924	**S**	Flow temp setp min OT° 35°C	6... 35 °C	0,5 °C	**18 °C**
928	**S**	Room influence	--, 1... 100 %	1 %	**80 %**
		If the installation is fitted with an room sensor : This function enables you to choose the ambient temperature's influence on the setting. If no value is entered, the setting is made based on the temperature control. If the parameter is set at 100%, the setting is only based on the ambient temperature.			
932	**S**	Room temp limitation	--, 0,5... 4 °C	0,5 °C	**0,5 °C**
938	**S**	Mixing valve decrease	0... 20 °C	1 °C	**0 °C**
941	**S**	Actuator running time	30... 873 s	1 s	**240 s**
945	**S**	Mixing valve in heating mode	Control, Open		**Control**
946	**S**	Lock time dewpoint limiter	--, 10... 600 min	10 min	**60 min**
947	**S**	Flow temp setp incr hygro	--, 1... 20 °C	1 °C	**10 °C**
948	**S**	Flow setp incr start at r.h.	0... 100 %	1 %	**60 %**
950	**S**	Flow temp diff dewpoint	--, 0... 5 °C	1 °C	**2 °C**
963	**S**	With prim contr / system pump	No, Yes		**No***
		*Basic setting : 1 circuit = No ; 2 circuits = Yes			
969	**S**	Operating mode changeover	No, Off, Automatic		**Off**
Heating, Circuit 2 (Only with the 2nd circuit kit option)					
		If the installation consists of 2 heating circuits			
1010	**U**	Comfort heating setpoint	from reduced setpoint to 35°C	0,5 °C	**20 °C**
1012	**U**	Reduced setpoint	from frost protection setpoint… to comfort setpoint	0,5 °C	**18 °C**
1014	**U**	Frost protection setpoint	from 4°C… to reduced setpoint	0,5 °C	**8 °C**
1016	**S**	Comfort setpoint max	20... 35 °C	1 °C	**28 °C**
1020	**I**	Heating curve slope (figure 41)	0,1... 4	0,02	**0,5**
1021	**I**	Heating curve displacement	-4,5... 4,5 °C	0,5 °C	**0**
1026	**S**	Heating curve adaption (see § 3.3.2)	Off, On		**Off**

Line		Function	Setting range or display	Setting increment	Basic setting
1030	I	Summer / Winter heating limits	8... 30 °C	0,5 °C	**18 °C**
		When the average of the outdoor temperatures over the past 24 hours reaches 18°C, the regulator switches off the heating (as an economy measure). During summer mode, the display shows "Eco". This function is only active in automatic mode.			
1032	S	24-hour heating limit	-10... 10 °C	1 °C	**-3 °C**
		This function enables you partially to offset the automatic summer/winter switchover during the intermediate seasons. Increasing the value delays the switchover to summer regime. Decreasing the value advances the switchover to summer regime. This function is only active in automatic mode.			
1040	S	Flow temp setpoint min (for fan convectors)	8... 95 °C	1 °C	**8 °C**
1041	S	Flow temp setpoint max	8... 95 °C	1 °C	**55 °C**
		Floor heating system = 50 °C / Higher temperature radiator = 65 °C			
1050	S	Room influence	1 %... 100 %	1 %	**20 %**
		If the installation is fitted with a room thermostat: This function enables you to choose the ambient temperature's influence on the setting. If no value is entered, the setting is made based on the temperature control. If the parameter is set at 100%, the setting is only based on the ambient temperature.			
1090	S	Optimum start control max	0... 360 min	10 min	**120 min**
1091	S	Optimum stop control max	0... 360 min	10 min	**120 min**
1100	S	Reduced setp increase start	-30... 10 °C, --°C	1 °C	**--**
1101	S	Reduced setp increase end	-30... 10 °C, --°C	1 °C	**-5 °C**
1130	S	Mixing valve boost	0... 50 °C	1 °C	**0**
1134	S	Actuator running time	30... 873 s	1 s	**240 s**
1150	I	Floor curing function (figure 44)			**Off**
		- Off : Early interruption of the current programme, programme inactive - Functional heating - Heating ready for occupation - Functional heating + curing heating - Curing heating + Functional heating - Manually Manual mode enables you to programme your own concrete slab drying time.The function ends automatically after 25 days.			
1151	I	Floor curing setp manually (if line 1150 = manual)	0... 95 °C	1 °C	**25 °C**
		This function enables you to set the custom concrete slab drying temperature. This temperature remains fixed. The concrete slab-drying programme stops automatically after running for 25 days.			
1156	I	Floor curing day current	0... 32		
1157	I	Days complete.current	0... 32		
1200	S	Operating mode changeover	None, Protection mode, Reduced, Comfort, Automatic		**Protection mode**
		Operating mode at end of concrete slab drying period			
Domestic Hot Water (Only with the DHW kit option)					
1610	U	Nominal setpoint	Reduced setting (line 1612)… to 65 °C setpoint	1	**50 °C**
		The backup electrical system is required to reach this level.			
1612	U	Reduced setpoint	8 °C... to Nominal setpoint (line 1610)	1	**25 °C**

Line		*Function*	*Setting range or display*	*Setting increment*	*Basic setting*
1620	I	Release (of DHW load)	24h / day Time programs HCs Time program 4/DHW Low-tariff T'prog 4/DHW or low-tariff		**Time program 4/DHW**
		24h / day : The temperature of the DHW is constantly maintained at the DHW comfort setting.			
		Time programs HCs **:** The DHW is produced according to the programming for the ambient temperature (with 1 hour in advance when switched on).			
		Time program 4/DHW : The DHW programme is separate form the heating circuit programme.			
		Low-tariff *** :** The electrical backup heating is only authorised to operate during the off-peak period.			
		T'prog 4/DHW or low-tariff *** :** The electrical backup heating is authorised to operate during the comfort period or off peak.			
		* - Connect the "Power Provider" contact to input EX5 or EX4. (See figure 39 page 29). In the case of a day /night contract, the electric back-ups for the DHW tank are subject to the power supplier's tariffs. Switching on the electric back-up for the DHW tank is only authorised during off-peak hours			
1640	I	Legionella function	Off, Periodic (depending on the line setting 1641) Set day of the week (depending on the line setting 1642)		**Off**
1641	I	Legionella funct periodically	1 to 7	1 day	**7**
1642	I	Legionella funct weekday	Monday, Tuesday,...		**Saturday**
1644	I	Legionella funct time	--:--, 00:00... 23:50		**--:--**
		If no value is entered, no anti-legionella cycle has been run.			
1645	I	Legionella funct setpoint	55 °C... 95 °C		**65 °C**
1646	I	Legionella funct duration	--:--, 10 min... 360 min		**30**
1647	I	Legionella funct circ pump	On... Off		**On**
1660	I	Release of circulating pump	Time program 3/HCP, DHW release, Time program 4/DHW		**DHW release**
Swimming pool (Only with swimming pool kit option)					
2056	U	Setpoint source heating	8... 35 °C		**22 °C**
Heat pump					
2844	S	Switch-off temp max	8... 100 °C	1 °C	**55 °C**
		Floor heating system = 55 °C / Higher temperature radiator = 65 °C			
2882	S	Release integr electric flow	0... 500 °Cmin	1 °Cmin	**100 °Cmin**
2884	S	Release el flow below OT (Electrical release - start-up with outdoor temperature)	-30... 30 °C		**2 °C**
2910	S	Release above outdside temp	-30... 30 °C		**--**
2920	S	With electrical utility lock (EX4)	Locked (Blocked on standby), Released		**Released**
		Released : HP = On _ Back-up DHW = Off _ 1st back-up HP = Off _ 2nd back-up HP = Off _ Boiler = On **Locked (Blocked on standby)** : HP = Off _ Back-up DHW = Off _ 1st back-up HP = Off _ 2nd back-up HP = Off _ Boiler = On			
Additional generator (Boiler connection)					
3700	S	Release under outdoor temperature	--, -50... 50 °C	0,5 °C	**2 °C**
3705	S	Overrun time	0... 120 min	1 min	**20**
3720	S	Switching integral (for boiler relief)	0... 500 °Cmin	1 °Cmin	**100 °Cmin**

Line		Function	Setting range or display	Setting increment	Basic setting
Domestic hot water (DHW) (Only with the DHW kit option)					
5020	**S**	Flow setpoint boost	0... 30 °C	1 °C	**5 °C**
5024	**S**	Switching diff	0... 20 °C	1 °C	**7 °C**
5030	**S**	Charging time limitation	10... 600 min	10 min	**90 min**
5060	**S**	Electrical resistance regime	Substitute, Summer, Always, Cooling mode		**Substitute**
5061	**S**	Electrical resistance release	24h / day, Release of DHW, Programme 4 / DHW		**Release of DHW**
Installation configuration					
5700	**I**	Pre-setting	1,2,3,... 12	1	**1**
		This control enables you to choose one of the 8 pre-selected installation configurations. The hydraulic layouts for the various configurations are detailed in the section : "Installation Configurations". - Pre-setting 1 : 1 heating circuit - Pre-setting 2 : 1 heating circuit and DHW tank. - Pre-setting 3 : 2 heating circuits. - Pre-setting 4 : 2 heating circuits and DHW tank. - Pre-setting 5 : Boiler connection and 1 heating circuit. - Pre-setting 6 : Boiler connection and 2 heating circuits - Pre-setting 7 : Boiler connection, 1 heating circuit and DHW tank. - Pre-setting 8 : Boiler connection, 2 heating circuits and DHW tank. - Pre-setting 9 to 12 : Do not use for heat pump single service. Reserved only for heat pump 2 services.		
5711	**S**	Cooling circuit 1	Off, System with 4 tubes, System with 2 tubes		**Off**
5870	**S**	Combi storage tank	No, Yes		**No**
5987	**S**	Cont type input EX4	Normally-closed contact (NC) Normally-opened contact (NO)		**NO**
5989	**S**	Cont type input EX5	Normally-closed contact (NC) Normally-opened contact (NO)		**NC**
6046	**I**	Function input H2 1 - Operating mode change HCs + DHW 2 - Operating mode change HCs 3 - Operating mode change HC1 4 - Operating mode change HC2 6 - Error/alarm message 9 - Dew point monitoring 16 - Swimming pool release	1... 16	1	**9**
6047	**I**	Contact type H2	NC - Normally-closed, NO - Normally-opened		**NO**
6048	**S**	Function value contact H2	0... 130 °C	1 °C	**45 °C**
6100	**S**	Readjustm outside sensor	-3... 3 °C	0,1 °C	**0 °C**
6120	**S**	Frost protection plant	On, Off		**On**
6205	**S**	Reset to default parameters	No, Yes		**No**
6220	**S**	Software version (RVS)	0... 99		
Error					
6711	**U**	Reset HP	No, Yes		**No**
6740	**S**	Flow temp HC1 alarm	--, 10... 240 min	10 min	**--**
6741	**S**	Flow temp HC2 alarm	--, 10... 240 min	10 min	**--**
6745	**S**	DHW charging alarm	--, 1... 48 h	1 h	**--**
6746	**S**	Flow temp cooling 1 alarm	--, 10... 240 min	10 min	**--**

Line		Function	Setting range or display	Setting increment	Basic setting
6800	**S**	History 1	Time, Date, Error code		
6802	**S**	History 2	Time, Date, Error code		
6804	**S**	History 3	Time, Date, Error code		
6806	**S**	History 4	Time, Date, Error code		
6808	**S**	History 5	Time, Date, Error code		
6810	**S**	History 6	Time, Date, Error code		
6812	**S**	History 7	Time, Date, Error code		
6814	**S**	History 8	Time, Date, Error code		
6816	**S**	History 9	Time, Date, Error code		
6818	**S**	History 10	Time, Date, Error code		
Service / Special operation					
7070	**S**	HP interval	--, 1... 240	1 month	**--**
7071	**S**	HP time since maint Reset ? (no, yes)	0... 240	1 month	**0**
7072	**S**	Max starts compr1/hrs run	--, 0,1... 12	0,1	**--**
7073	**S**	Cur starts compr1/hrs run (since the 6 last weeks) Reset ? (no, yes)	0... 12		**0**
7076	**S**	Diff condens max/week	--, 1... 250	1	**--**
7077	**S**	Cur diff condens max/week Reset ? (no, yes)	0... 250		**0**
7078	**S**	Diff condens min/week	--, 1... 250	1	**---**
7079	**S**	Cur diff condens min/week Reset ? (no, yes)	0... 250		**0**
7090	**S**	DHW storage tank interval	--, 1... 240	1 month	**---**
7091	**S**	DHW stor tank since maint Reset ? (no, yes)	0... 240		**0**
7141	**U**	Emergency operation	Off, On		**Off**
		Off : The heat pump does not use the backup electrical heating system or the boiler connection when a fault occurs (error 370) On : The heat pump uses the backup electrical system or the boiler connection when a fault occurs (error 370). In the "On" position, the energy costs can be onerous if the error is not eliminated.			
7142	**S**	Emergency operating function type	Manual, Automatic		**Manual**
		Manual : Emergency mode is not active when a fault occurs. (Emergency mode = OFF) Automatic : Emergency mode is active when a fault occurs. (Emergency mode = ON) In "Automatic" position, the energy cost can be onerous if the error is not detected and eliminated.			
7150	**I**	Simulation outside temp	---, -50... 50 °C	0,5	**--**
7181	**I**	Phone no. responsibility 1	0... 255		
7183	**I**	Phone no. responsibility 2	0... 255		
Inputs / outputs test					
7700	**I**	Relay test			**No test**
		This consists of instructing the regulator's relays one by one and checking their outputs. This enables you to check that the relays are working and that the cabling is correct. Check that each appliance in the installation is operating correctly. No test _ Everything is on STOP _ Relay output QX23, QX22, QX21 module 1 _ Relay output QX1 to QX6 _ Relay output QX23, QX21, QX22 module 2 _ Relay output QX7.			
		The display shows the "Key" symbol. Pressing the Info button displays "Error 368". **Warning : The component being tested is receiving electrical power throughout the test.**			

Line		*Function*	*Setting range or display*	*Setting increment*	*Basic setting*
7710	I	Output (Ux) test	--, 0... 100%	1	**--**
7711	I	Voltage (Ux) value	0... 10 Volt		**0**
7720	I	Digital outputs test 0 = No test 1 = Everything is on STOP 2 = Digital output DO1 3 = Digital output DO2			**No test**
7721	I	Digital output DO1	Cooling regime, Heating regime		**Heating regime**
7722	I	Digital output DO2	Off, On		**Off**
7730	I	Outdoor temperature (B9)	-50... 50 °C		**0**
7820	I	Sensor temperature BX1	-28... 350 °C		**0**
7823	I	Sensor temperature BX4	-28... 350 °C		**0**
7824	I	Sensor temperature BX5	-28... 350 °C		**0**
7830	I	Sensor temperature BX21 module 1	-28... 350 °C		**0**
7831	I	Sensor temperature BX22 module 1	-28... 350 °C		**0**
7832	I	Sensor temperature BX21 module 2	-28... 350 °C		**0**
7833	I	Sensor temperature BX22 module 2	-28... 350 °C		**0**
7841	I	Contact status H1	Open, Closed		**Open**
7846	I	Contact status H2	Open, Closed		**Open**
7855	I	Contact status H3	Open, Closed		**Open**
7914	I	Input EX4	0, 230 V		**0**
7915	I	Input EX5	0, 230 V		**0**
7916	I	Input EX6	0, 230 V		**0**
State					
8000	I	State heating circuit 1			**0**
8001	I	State heating circuit 2			**0**
8003	I	State DHW			**0**
8004	I	State cooling circuit 1			**0**
8006	I	State heat pump			**0**
8011	I	State swimming pool			**0**
8022	I	State supplementary source			**0**
8050	I	History 1	Time, Date, State code		
8052	I	History 2	Time, Date, State code		
8054	I	History 3	Time, Date, State code		
8056	I	History 4	Time, Date, State code		
8058	I	History 5	Time, Date, State code		
8060	I	History 6	Time, Date, State code		
8062	I	History 7	Time, Date, State code		
8064	I	History 8	Time, Date, State code		
8066	I	History 9	Time, Date, State code		
8068	I	History 10	Time, Date, State code		

Line		Function	Setting range or display	Setting increment	Basic setting
Diagnostics heat generation					
8402	**I**	Electrical resistance flow 1	Off, On		**Off**
8403	**I**	Electrical resistance flow 2	Off, On		**Off**
8406	**I**	Condenser pump	Off, On		**Off**
8410	**U**	Return temp HP	0... 140 °C		
		Setpoint (flow) HP	0... 140 °C		
8412	**U**	Flow temp HP	0... 140 °C		
		Setpoint (flow) HP	0... 140 °C		
8413	**U**	Compressor modulation	0... 100%		
8425	**I**	Temp diff condensor	-50... 140 °C		
8454	**S**	Locking time Heat Pump Reset ? (no, yes)	0... 2730 h		
8455	**S**	Counter number of locks HP Reset ? (no, yes)	0... 65535		
8456	**S**	Hours run electrical flow Reset ? (no, yes)	0... 2730 h		
8457	**S**	Start counter electrical flow Reset ? (no, yes)	0... 65535		
Diagnostics consumers					
8700	**U**	Outdside temperature	-50... 50 °C		
8701	**U**	Outside temp min Reset ? (no, yes)	-50... 50 °C		
8702	**U**	Outside temp max Reset ? (no, yes)	-50... 50 °C		
8703	**I**	Outside temp attenuated Reset ? (no, yes)	-50... 50 °C		
		This is the average of the outdoor temperature over a 24-hour period. This value is used for automatic Summer / Winter switchover (line 730).			
8704	**I**	Outside temp composite	-50... 50 °C		
		The mixed outdoor temperature is a combination of the current outdoor temperature and the average outdoor temperature calculated by the regulator. This value is used for calculating the initial temperature.			
8730	**I**	Heating circuit pump, circuit 1	Off, On		**Off**
8731	**I**	Mixer valve HC1 open	Off, On		**Off**
8732	**I**	Mixer valve HC1 closed	Off, On		**Off**
8740	**U**	Room temperature 1	0... 50 °C		**20 °C**
		Room setpoint 1	4... 35 °C		**20 °C**
8743	**U**	Flow temperature 1	0... 140 °C		**50 °C**
		Flow temperature setpoint 1	0... 140 °C		**50 °C**
8756	**U**	Flow temp cooling 1	0... 140 °C		**0**
		Flow temp setpoint cooling 1	0... 140 °C		**0**
8760	**I**	Heating circuit pump, circuit 2	Off, On		**Off**
8761	**I**	Mixer valve HC2 open	Off, On		**Off**

Line		*Function*	*Setting range or display*	*Setting increment*	*Basic setting*
8762	**I**	Mixer valve HC2 closed	Off, On		**Off**
8770	**U**	Room temperature 2	0... 50 °C		**20 °C**
		Room setpoint 2	4... 35 °C		**20 °C**
8773	**U**	Flow temperature 2	0... 140 °C		**50 °C**
		Flow temperature setpoint 2	0... 140 °C		**50 °C**
8820	**I**	DHW pump	Off, On		**Off**
8821	**I**	DHW electrical resistance K6	Off, On		**Off**
8830	**U**	DHW (domestic hot water) temperature	0... 140 °C		
		DHW temperature setpoint	5... 80 °C		**50 °C**
8840	**S**	Time counter DHW pump	0... 2730 h		
8841	**S**	Start counter DHW pump	0... 2730 h		
8842	**S**	Hours run electric DHW	0... 2730 h		
8843	**S**	Start counter electric DHW	0... 65535		
8900	**U**	Swimming pool temperature	0... 140 °C		
		Swimming pool temperature setpoint	0... 35 °C		**22 °C**
8950	**I**	Common flow temperature	0... 140 °C		
		Common flow temperature setpoint	0... 140 °C		**0**
8957	**I**	Common flow setpoint, refrigeration	0... 140 °C		
9031	**I**	Relay output QX1	Off, On		**Off**
9032	**I**	Relay output QX2	Off, On		**Off**
9033	**I**	Relay output QX3	Off, On		**Off**
9034	**I**	Relay output QX4	Off, On		**Off**
9035	**I**	Relay output QX5	Off, On		**Off**
9036	**I**	Relay output QX6	Off, On		**Off**
9037	**I**	Relay output QX7	Off, On		**Off**
9050	**I**	Relay output QX21 module 1	Off, On		**Off**
9051	**I**	Relay output QX22 module 1	Off, On		**Off**
9052	**I**	Relay output QX23 module 1	Off, On		**Off**
9053	**I**	Relay output QX21 module 2	Off, On		**Off**
9054	**I**	Relay output QX22 module 2	Off, On		**Off**
9055	**I**	Relay output QX23 module 2	Off, On		**Off**

4 Configuring the installation

☞ Optional DHW kit

DHW tank control (with electrical back-up) requires the use of the DHW kit.

Warning : The tank must be fitted with an electric back-up, particularly for anti-legionella cycles.

Please refer to section (Operating principle, page 11)

☞ Optional 2nd circuit kit

The control of 2 heating circuits requires the installation of the 2nd circuit.

If the installation consists of radiators (or fan-convectors) and a heated floor, zone 2 will correspond to the radiator (or fan-convectors) zone and **zone 1 to the heated floor zone.**

☞ Optional boiler connection kit

The connection of an oil or gas boiler to the heat pump requires the installation of the boiler connection kit.

☞ Swimming pool kit option

Please refer to the instructions supplied with the swimming pool kit.

Configuration (Parameter 5700)	***Type of installation***	***Page***
Pre-setting 1	1 heating circuit.	45
Pre-setting 2	1 heating circuit and DHW tank.	46
Pre-setting 3	2 heating circuits.	47
Pre-setting 4	2 heating circuits and DHW tank.	48
Pre-setting 5	Boiler connection and 1 heating circuit.	Please refer to the instructions supplied with the boiler connection kit.
Pre-setting 6	Boiler connection and 2 heating circuits.	
Pre-setting 7	Boiler connection, 1 heating circuit and DHW tank.	
Pre-setting 8	Boiler connection, 2 heating circuits and DHW tank.	
Pre-setting 9	**Do not use for heat pump single service. Reserved only for heat pump 2 services.**	
Pre-setting 10		
Pre-setting 11		
Pre-setting 12		

☞ Please consult us regarding any other installation configuration.

4.1 Configuration 1, 2, 3 or 4: heat pumps with electric back-ups

☞ **Parameter 5700.**

Configuration 1 : 1 heating circuit (see figure page 45).

Configuration 2 : 1 heating circuit and DHW tank. (see figure page 46).

Configuration 3 : 2 heating circuits (see figure page 47).

Configuration 4 : 2 heating circuits and DHW tank. (see figure page 48).

DHW tank control (with electrical back-up) requires the use of the DHW kit.

The control of 2 heating circuits requires the installation of the 2nd circuit.

4.1.1 Hydraulic connections

☞ **In the case of a mixed DHW tank.**

Install the directional valve on the heating circuit (on circuit 2 if it exists).

☞ **In the case of 2 heating circuits.**

With the 2nd circuit kit, the hydraulic unit's circulation pump (CC1) must be moved and installed in a box of the 2nd circuit kit (CC1).

4.1.2 Electrical connections

• **1** - Power supply to the outdoor unit.

Please refer to section (Electrical connections on the outdoor unit side page 24).

• **2** - Interconnection between the outdoor unit and the hydraulic unit (see figure 37 , page 26).

• **3** - Power supply to the electrical back-ups :

- Connect the electrical supply for the back-ups (terminals 20, 21, 22 and 23) to the electrical panel. (see figure 37, page 26).

• **4** - Outdoor sensor (see figure 38, page 27).

• **5** - Room thermostat and/or room control unit (Option, see figure 38, page 27).

• **6** - Contract with the power provider :

- Connect the "Power Provider" contact to input EX5 or EX4. (see figure 38, page 27)

☞ **In the case of a mixed DHW tank.**

Please refer to the instructions supplied with the DHW kit.

• **7** - Connect the directional valve to connector QX4, (see figure 38, page 27).

• **8** - Connect the domestic water sensor to terminal BX1 on the heat pump's control panel (see figure 38, page 27).

• **9** - Connect the back-up resistance to terminal 19 (Earth) and relay RP EPS to terminals 2 (L) and 4 (N) (see figure 37, page 26).

• **10** - Connect the electrical power supply for the domestic water back-up (terminals 17, 18 and 19) to the electric panel (see figure 37, page 26).

☞ **In the case of 2 heating circuits.**

Please refer to the instructions supplied with the second circuit kit.

• **11** - Circulation pump CC2.

• **12** - Circulation pump CC1.

• **13** - Mixer valve.

• **14** - Initial sensor.

() - Interconnection between RVS / AVS.

☞ **In the case of a heated floor.**

Heated floor thermal safety fuse.

• **20** - The installer is responsible for connecting the heated floor's safety system. Thermal safety will stop the heat pump if the temperature in the floor is too high.

4.1.3 Parametering the setting

• Adjust the configuration: **1**, **2**, **3** or **4**, Line **5700**.

• Adjust the DHW programme (Line **1610** to **1661**).

• 1 heating circuit.
Adjust the heating curve slope.
Line **720.**

• 2 heating circuits.
Adjust the heating curve slope.
Line **720** (Circuit 1).
Line **1020** (Circuit 2).

4.1.4 Higher temperature radiators

• Possibility to adjust the temperature setpoint of the radiator circuits.
Line **741** (Circuit 1).
Line **1041** (Circuit 2).

• First, adjust the value of the Switch-off temperature max line **2844**.

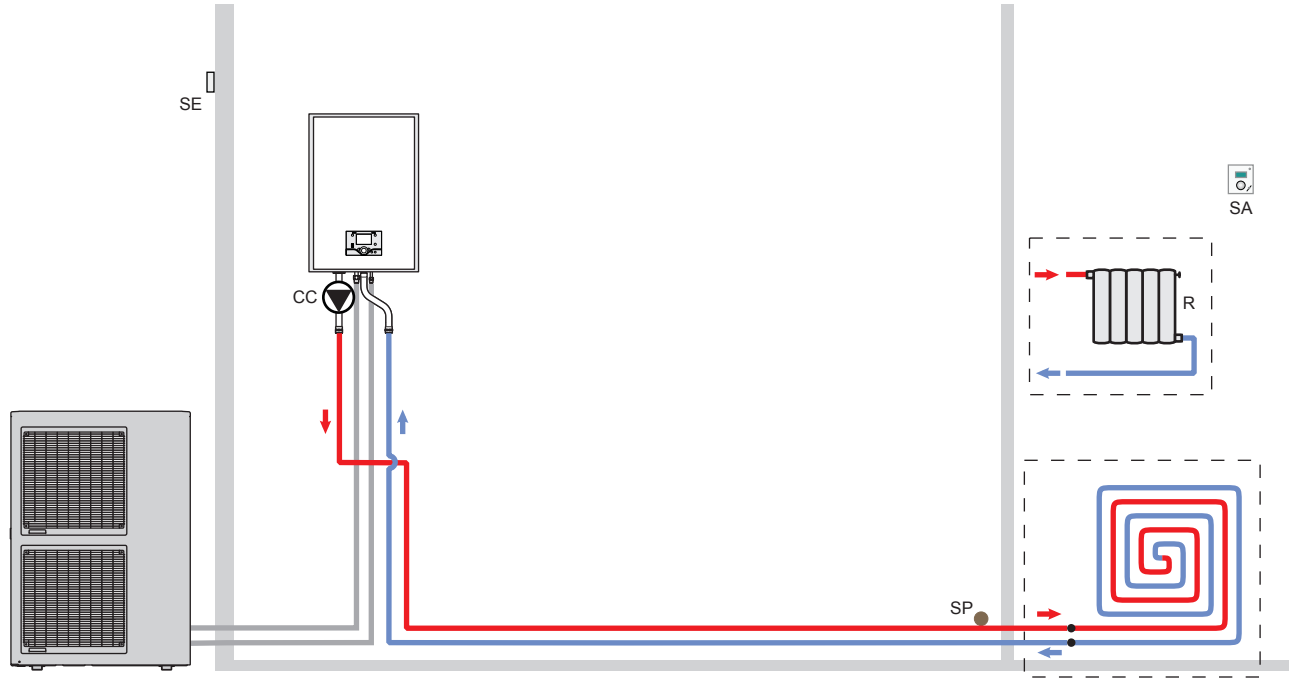
4.1.5 Special cases

Please consult us regarding any other installation configuration.

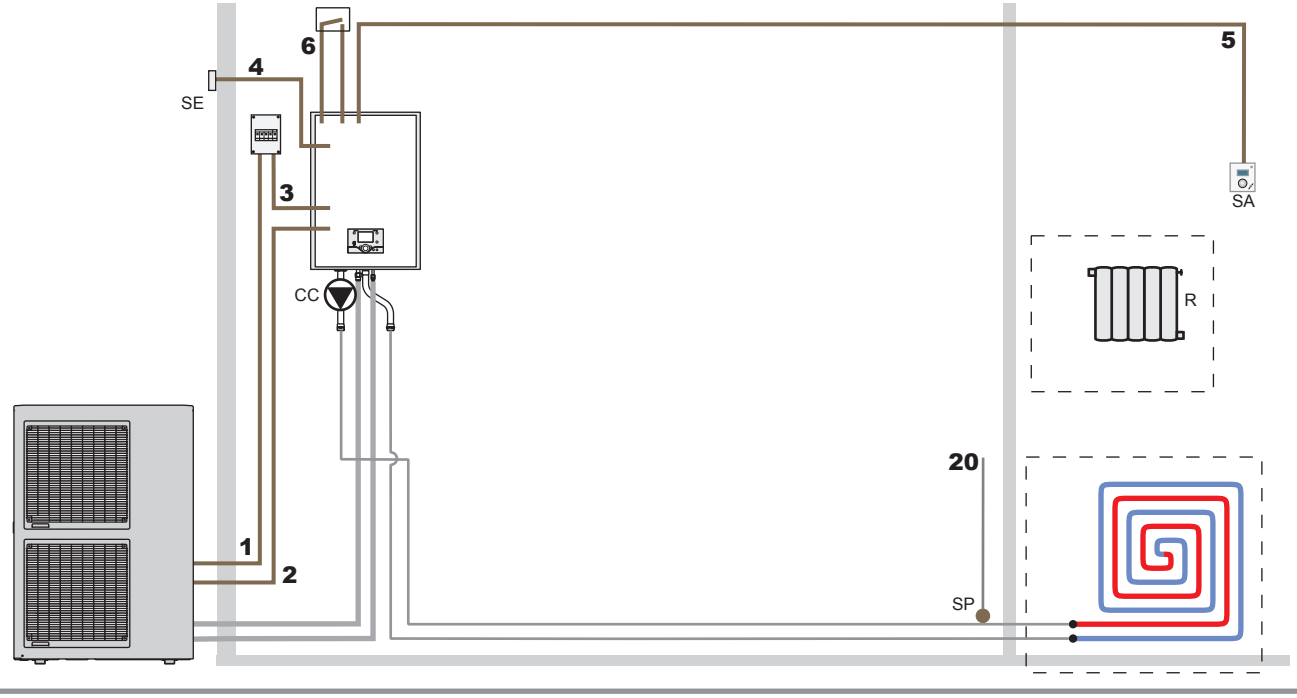
Configuration 1 :
1 heating circuit.

☞ **See detailed instructions on page 44.**

Overall hydraulic layout



Overview of all the electrical connections



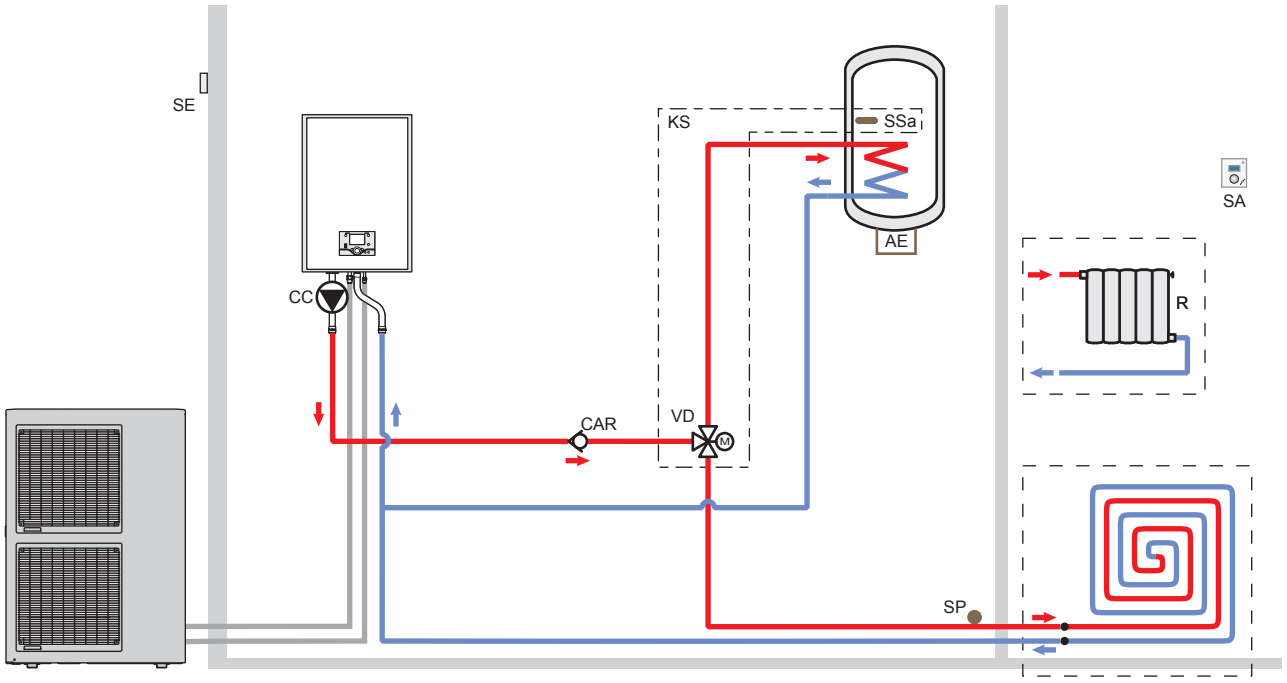
Legend

CC - Heating circulation pump.
R - Radiators (or fan convectors).
SA - Room thermostat (option).
SE - Outdoor sensor.
SP - Heated floor thermal safety fuse.

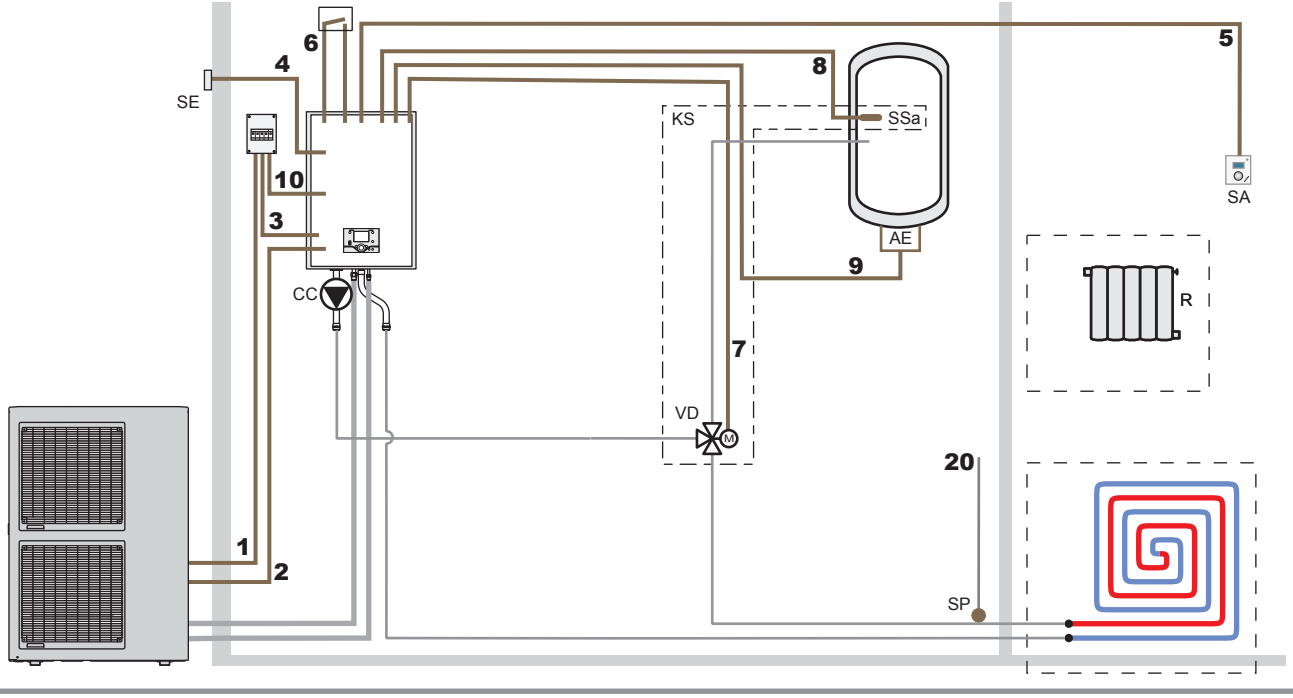
Configuration 2 :
1 heating circuit and DHW tank.

☞ **See detailed instructions on page 44.**

Overall hydraulic layout



Overview of all the electrical connections



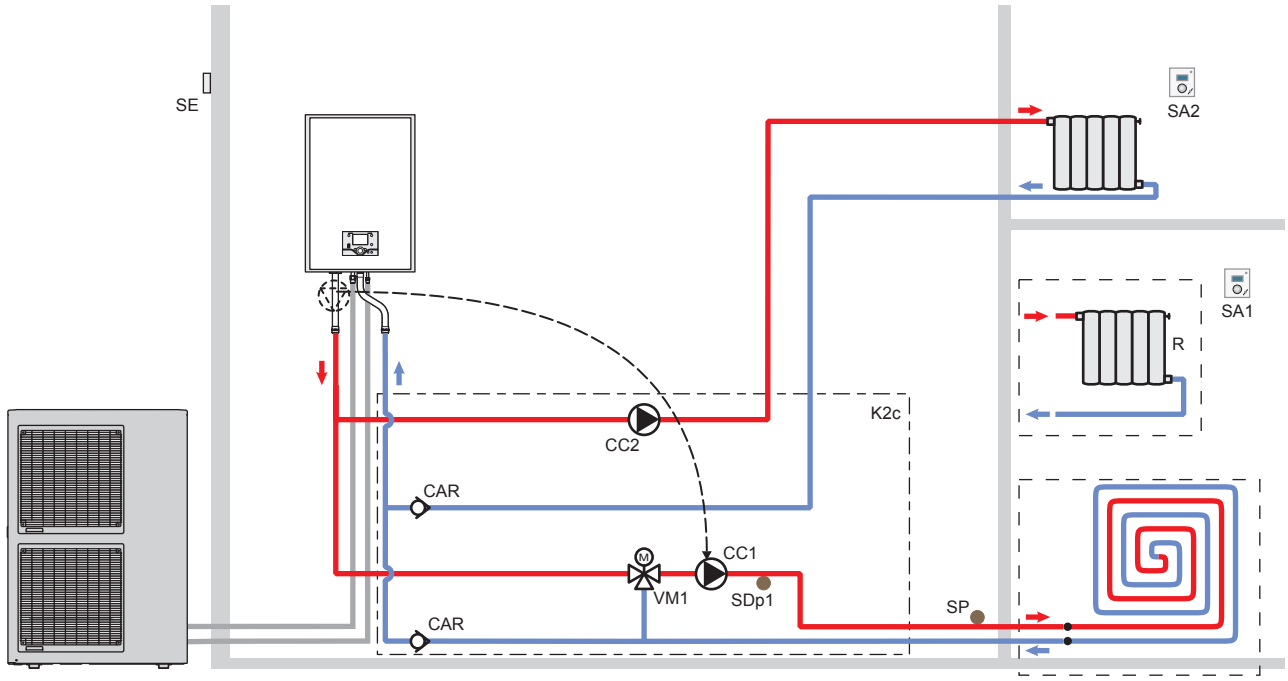
Legend

CAR - Non-return valve.
AE - Electric back-up.
CC - Heating circulation pump.
KS - DHW kit.
R - Radiators (or fan convectors).
SA - Room thermostat (option).
SE - Outdoor sensor.
SP - Heated floor thermal safety fuse.
SSa - DHW sensor.
VD - Distribution valve.

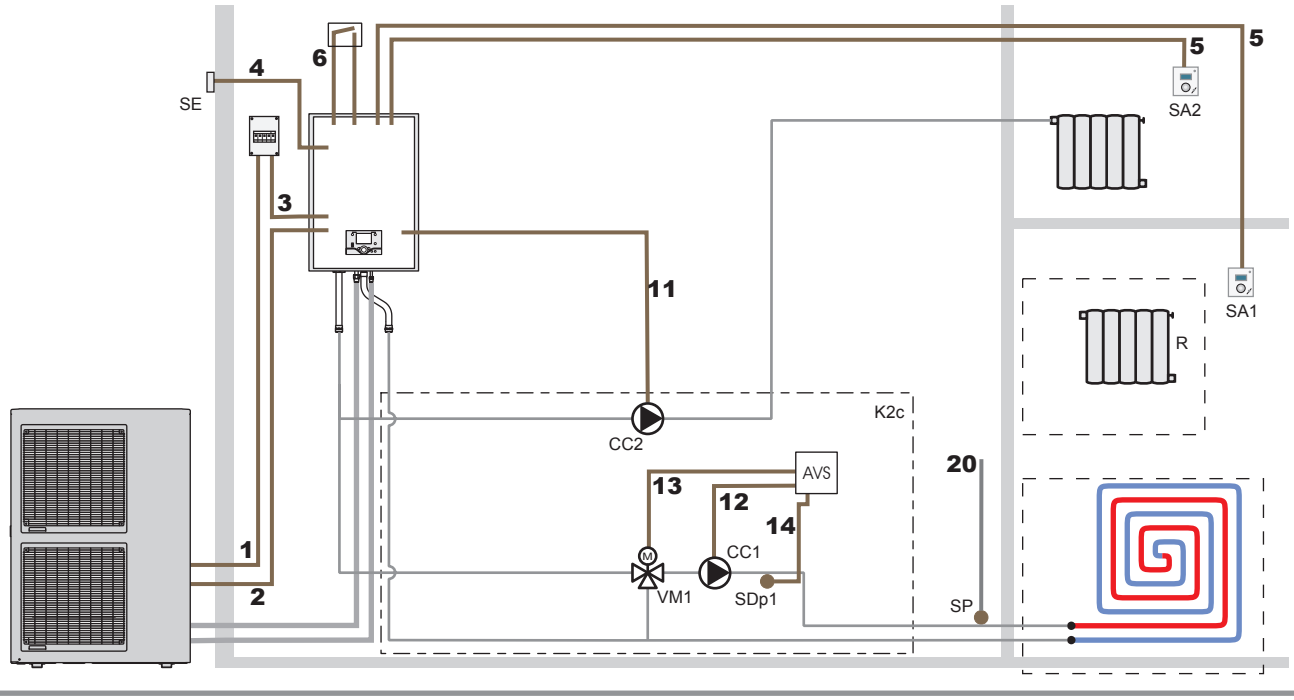
Configuration 3 :
2 heating circuits.

☞ **See detailed instructions on page 44.**

Overall hydraulic layout



Overview of all the electrical connections



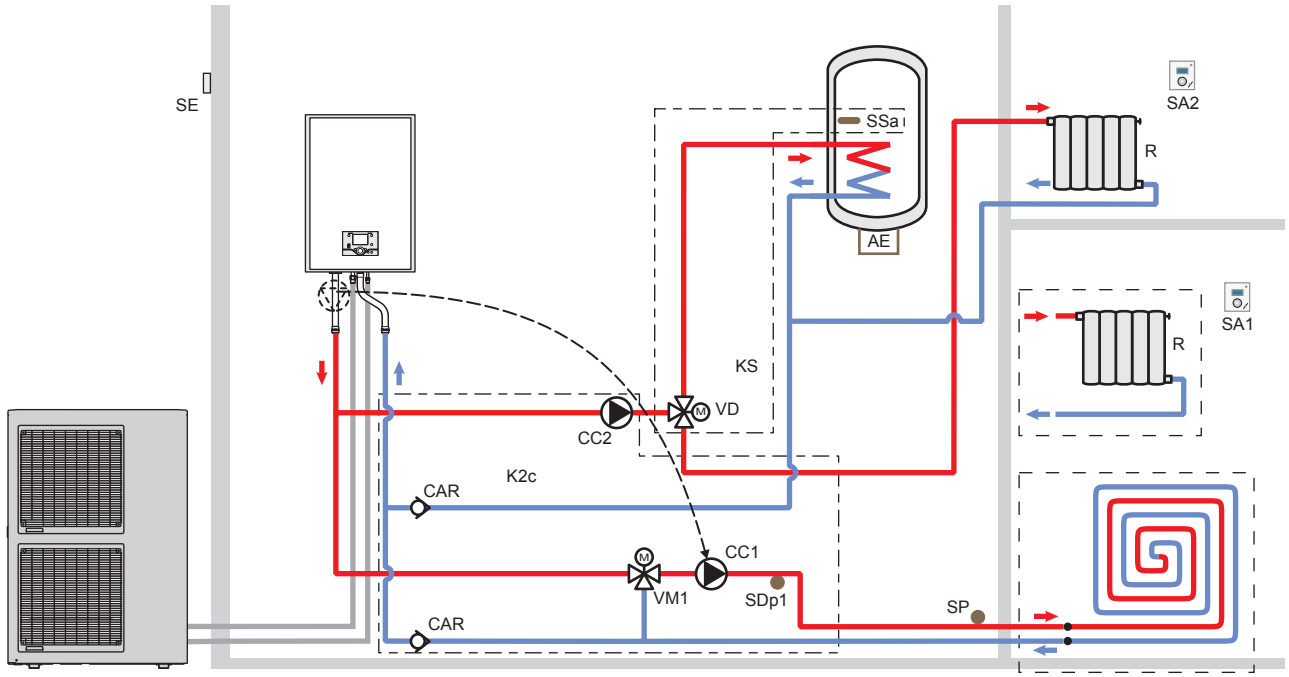
Legend

CAR - Non-return valve.
CC1 - Heating circulation pump, Circuit 1 (Remote heat pump circulation pump).
CC2 - Heating circulation pump, Circuit 2.
K2c - 2nd circuit kit.
R - Radiators (or fan convectors).
SA1 - Room thermostat, Circuit 1 (option).
SA2 - Room thermostat, Circuit 2 (option).
SE - Outdoor sensor.
SDp1 - Flow sensor, Circuit 1.
SP - Heated floor thermal safety fuse.
VM1 - Mixer valve, Circuit 1.

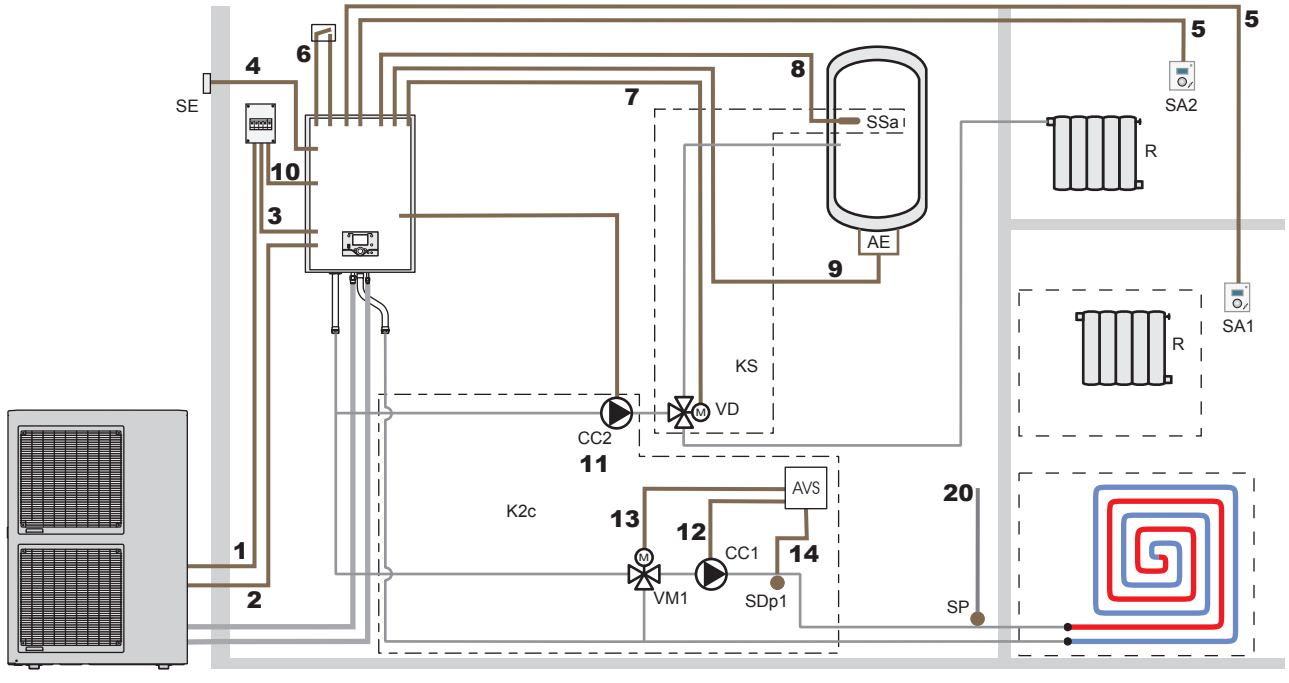
Configuration 4 :
2 heating circuits and DHW tank.

☞ **See detailed instructions on page 44.**

Overall hydraulic layout



Overview of all the electrical connections



Legend

AE - Electric back-up.
CAR - Non-return valve.
CC1 - Heating circulation pump, Circuit 1 (Remote heat pump circulation pump).
CC2 - Heating circulation pump, Circuit 2.
KS - DHW kit.
K2c - 2nd circuit kit.
R - Radiators (or fan convectors).
SA1 - Room thermostat, Circuit 1 (option).
SA2 - Room thermostat, Circuit 2 (option).
SE - Outdoor sensor.
SDp1 - Flow sensor, Circuit 1.
SSa - DHW sensor.
SP - Heated floor thermal safety fuse.
VD - Distribution valve.
VM1 - Mixer valve, Circuit.

5 Electrical wiring diagrams

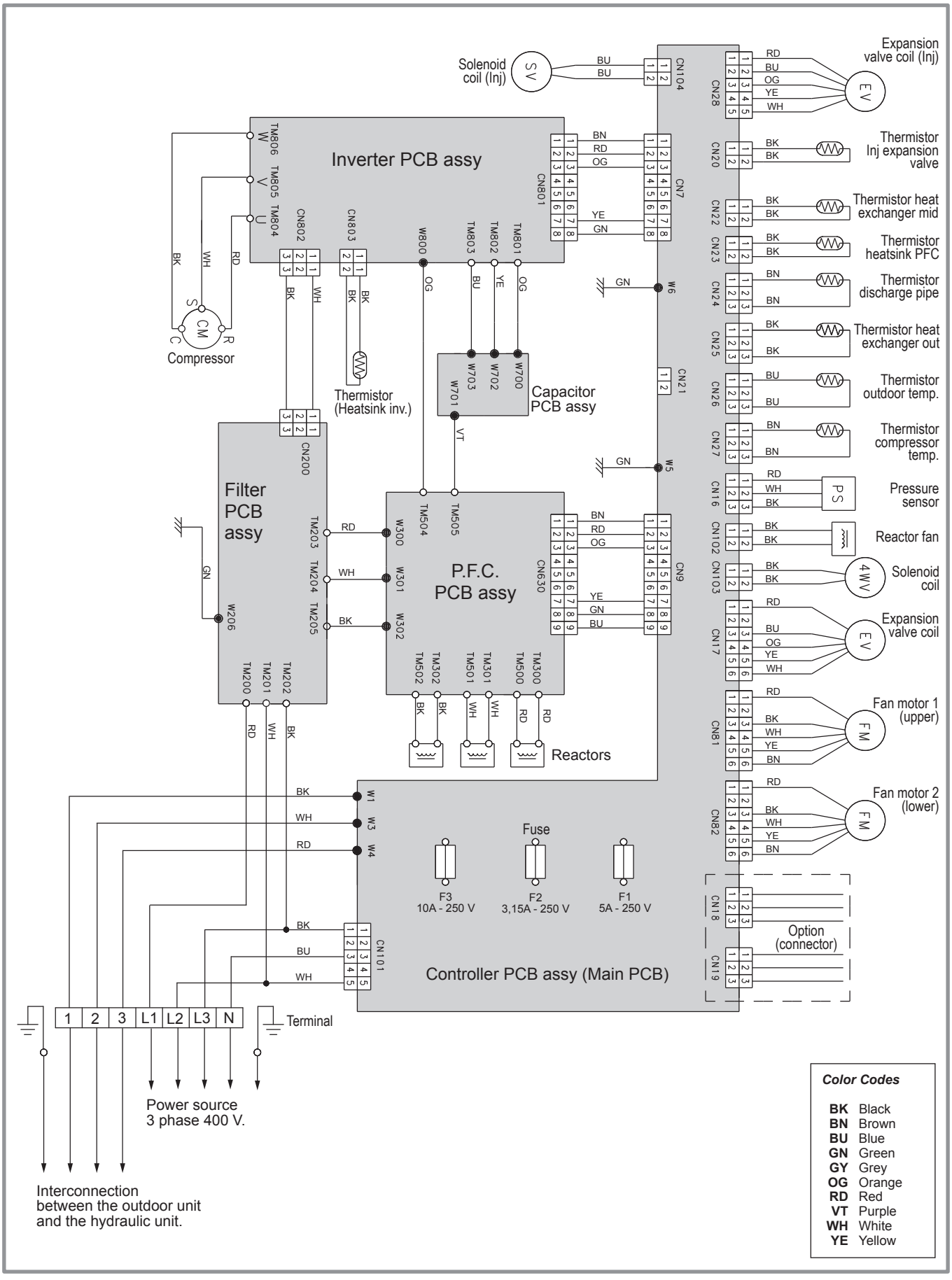


Figure 45 - Electrical wiring of outdoor unit

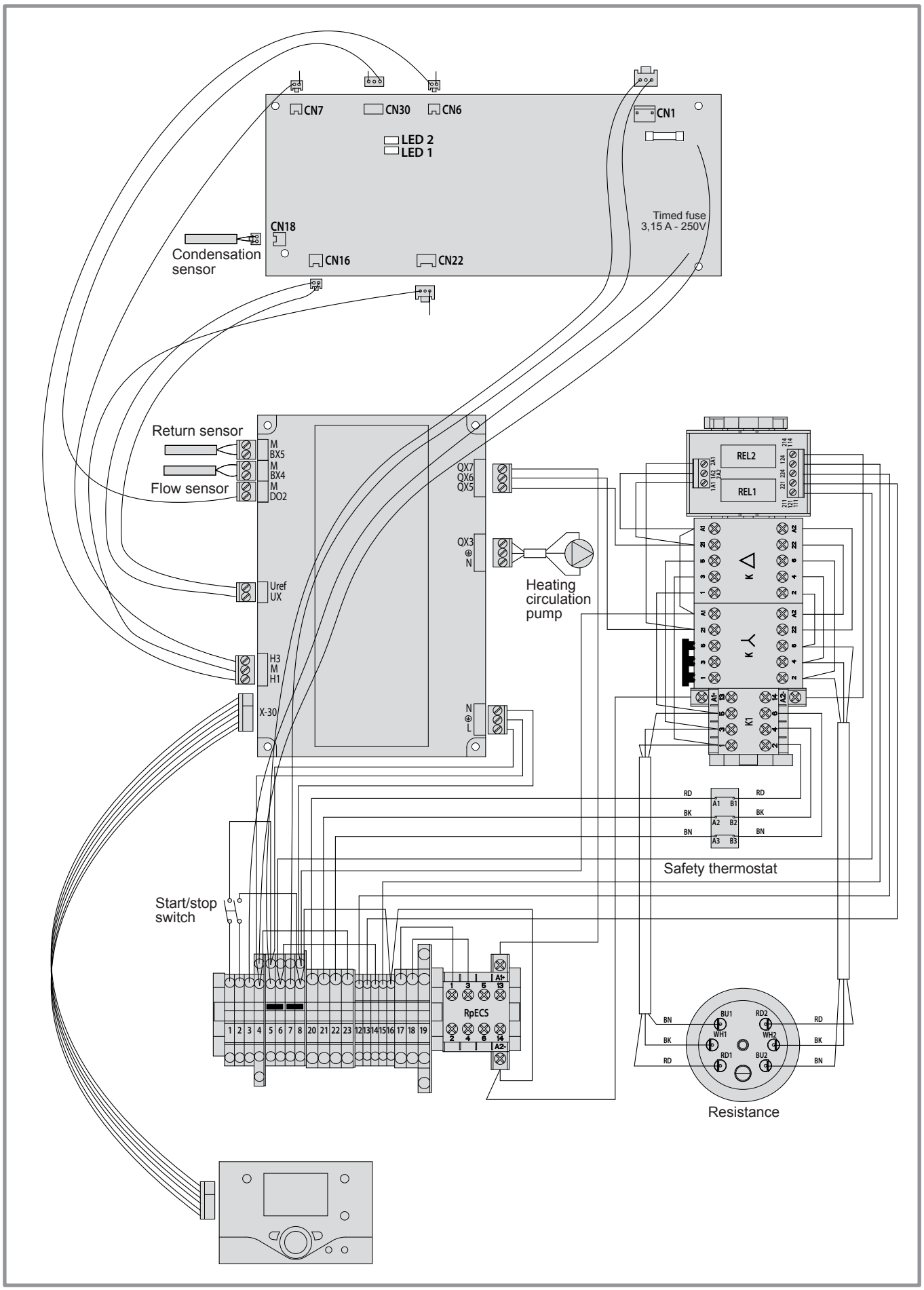


Figure 46 - Electrical wiring, Hydraulic unit (Except installer's connections)

6 Troubleshooting

Depending on whether the fault comes from the outdoor unit or the hydraulic unit, the fault may be indicated by the digital display or the diode on the interface cards.

6.1 Information display

Various data can be displayed by pressing the info button.

Depending on the type of unit, configuration and operating state, some of the info lines listed below may not appear.

- Possible error messages from the error code list (see table, page 53).
- Possible service messages from the maintenance code list.
- Possible special mode messages.
- Various data (see below).

Designation	*Line*
Floor drying current setpoint .	-
Current drying day.	-
Terminated drying days.	-
State heat pump.	8006
State supplementary source.	8022
State DHW.	8003
State swimming pool.	8011
State heating circuit 1.	8000
State heating circuit 2.	8001
State cooling circuit 1.	8004
Outdoor temperature.	8700
Room temperature 1.	8740
Room setpoint 1.	
Flow temperature 1.	8743
Flow temperature setpoint1.	
Room temperature 2.	8770
Room setpoint 2.	
Flow temperature 2.	8773
Flow temperature setpoint 2.	
DHW (domestic hot water) temperature.	8830
Heat pump return temperature.	8410
Setpoint (return) HP.	
Heat pump flow temperature.	8412
Setpoint (flow) HP.	
Swimming pool temperature.	8900
Swimming pool temperature setpoint.	

☞ **Ensure that the general electrical power supply has been cut off before starting any repair work.**

☞ **When the HP is not under tension, protection frost-free is not assured.**

6.2 Faults displayed on hydraulic unit

Faults or breakdowns on the hydraulic mode are indicated by the display on the user interface.

The display shows the “Bell” symbol .

Press the Info key for more details on the origin of the fault.

When the error has been resolved, the faults are re-initialised at zero automatically.

Hydraulic unit : Fault visible on the digital display.

Error number	*Error contents*	*Error location*	*Heat pump operation despite the error*
-	No connection.	Failure to comply with room thermostat's polarity.	No
10	Outdoor sensor.	B9	Yes with OT = 0 °C
33	Heat pump initial temperature sensor error.	B21	Yes
44	Heat pump return temperature sensor error.	B71	Yes
50	DHW temperature sensor.	B3	Yes
60	Ambient temperature sensor 1.		Yes
65	Ambient temperature sensor 2.		Yes
105	Maintenance message.		Yes
121	Flow temperature for (HC1) not reached.		Yes
122	Flow temperature for (HC2) not reached.		Yes
127	Anti-legionella temperature not reached.		Yes
369	External fault (safety component).		No
370	Outdoor unit connection error (In the start phase, see the para. “Start-up”).	See page 54.	No

Hydraulic unit : Flashing of the diode visible on the interface card.

Diodes display		*Error contents*
LED 2 (green)	*LED 1 (red)*	
1 Flash	1 Flash	Communication error between Hydraulic unit and Outdoor unit.
4 Flashes	1 Flash	Heat pump capacity signal error (Open or short).
4 Flashes	2 Flashes	Hydraulic unit heat-exchange thermistor Error.
6 Flashes	3 Flashes	Inverter error.
6 Flashes	4 Flashes	Active filter error. PFC error.
7 Flashes	1 Flash	Discharge thermistor error.
7 Flashes	2 Flashes	Compressor thermistor error.
7 Flashes	3 Flashes	Heat-exchange thermistor (outlet) error. Heat-exchange thermistor (intermediate) error.
7 Flashes	4 Flashes	Outdoor thermistor error.
7 Flashes	7 Flashes	Heat sink thermistor (inverter) error. Heat sink thermistor (P.F.C.) error.
7 Flashes	8 Flashes	Expansion valve thermistor error.
8 Flashes	4 Flashes	Current sensor error.
8 Flashes	6 Flashes	Pressure sensor error. Pressure switch error.
9 Flashes	4 Flashes	Current trip.
9 Flashes	5 Flashes	Detection of compressor position error. Compressor start up error.
9 Flashes	7 Flashes	Outdoor unit fan motor error.
10 Flashes	1 Flashes	Discharge temperature protection.
10 Flashes	3 Flashes	Compressor temperature protection.
10 Flashes	5 Flashes	Low pressure abnormal.
Continuous flashing (1 sec On / 1 sec Off)		Pump down operation.
Continuous lighting	Off	Defrosting.

6.3 Faults displayed on the outdoor unit

To access the electronic board, you must remove the front (right-hand) facing from the outdoor unit.

Faults are coded by diode flashes.

Outdoor unit :

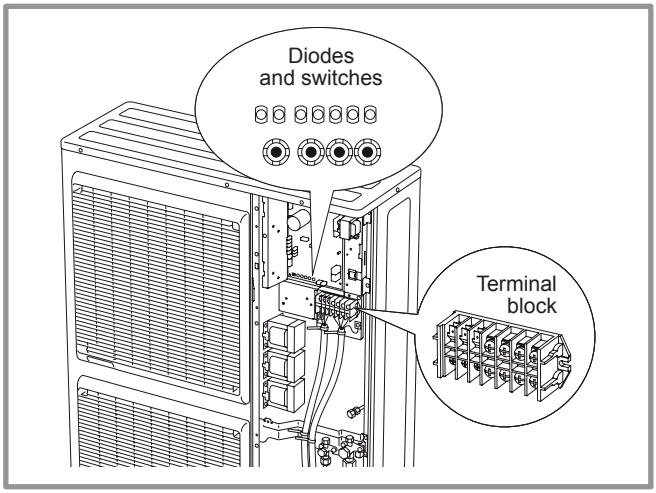


Figure 47 - Location of switches and diodes on outdoor unit

When an error occurs :

- The diode "**ERROR**" (2) blinks.

• Press once on the switch "**ENTER**" (SW4).

- The "**ERROR**" (2) diode blinks several times depending on the error's type (see below).

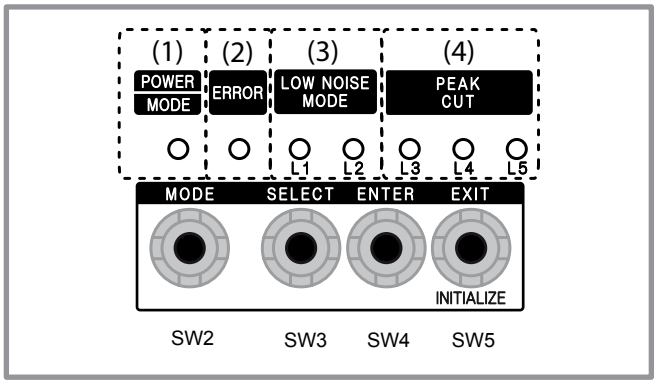


Figure 48 - LED display on the outdoor unit

Diode display	*Error contents*
1 Flash	Serial forward transfer error.
2 Flashes	Discharge thermistor error.
3 Flashes	Pressure sensor error.
4 Flashes	Heat-exchange thermistor (outlet) error.
5 Flashes	Heat-exchange thermistor (intermediate) error.
6 Flashes	Expansion valve thermistor error.
7 Flashes	Outdoor temperature thermistor error.
8 Flashes	Compressor thermistor error.
9 Flashes	Heat sink thermistor (inverter) error.
10 Flashes	Heat sink thermistor (P.F.C.) error.
11 Flashes	Discharge temperature protection (permanent stoppage).
12 Flashes	Compressor temperature protection (permanent stoppage).
13 Flashes	Current trip (permanent stoppage).
14 Flashes	Detection of compressor position error (permanent stoppage).
15 Flashes	Compressor start up error (permanent stoppage).
16 Flashes	Fan motor (1) error (permanent stoppage).
17 Flashes	Fan motor (2) error (permanent stoppage).
18 Flashes	Inverter error.
19 Flashes	P.F.C. error.
20 Flashes	Low pressure abnormal.
21 Flashes	Connection with hydraulic unit error.
22 Flashes	Hydraulic unit abnormality condition.

7 Quick-start procedure

Before switching on the hydraulic unit :

- Check the electric wiring.
- Check the refrigeration circuit and make sure the gas supply has been performed.
- Check the pressure of the hydraulic circuit (1-2 bar), check that the heat pump is purged, and the rest of the installation.
- Make sure that ALL DIP SW are OFF before starting up. (figure 23 page 20).

7.1 Start-up

- Turn ON the start/stop switch.
- Configure the hydraulic circuit (setting 5700) :

  Presettings :

  1. 1 heating circuit (by default).
  2. 1 heating circuit and DHW tank.
  3. 2 heating circuits.
  4. 2 heating circuitsand DHW tank.
  5. Boiler backup and 1 heating circuit.
  6. Boiler backup and 2 heating circuits.
  7. Boiler backup, 1 heating circuit and DHW tank.
  8. Boiler backup, 2 heating circuits and DHW tank.

- Time, Date and time programs for HC1, HC2, DHW if different than default values (settings 500 – 576).
- Ajust the heating curve slope (720; 1020) and curve off-set (721; 1021).

The heat pump is ready for operation !

You can also :

1. Adjust the heating circuit setpoints if different than default values (710 – 714; 1010-1014).
2. Adjust the DHW setpoints if different than default values (1610-1612)
3. Start a legionella cycle (1640-1647).
4. Perform floor drying (850-857).

7.2 Start-up check-list

7.2.1 Defore starting-up

• Sight checks

Outdoor unite (see chapiter "Installation of the outdoor unit" page 12)	OK	Non compliant	
Location and fittings, condensate evacuation.			
Compliance with distances from obstacles.			

• Hydraulic checks

Hydraulic unit (see chapiter "Installing the hydraulic unit" page 15)	OK	Non compliant	Value
Connection of pipes, valves and pumps (1 or 2 circuits, DHW).			
Installation water volume (expansion vessel of adequate capacity ?).			
No leaks.			
Main system pressure and degassing (0,3bar > expansion vessel pre-loading).			

• Refrigeration connections and checks

(see chapiters "Refrigeration connections" page 16 and "filling the installation with gas" page 19)	OK	Non compliant	
Connections between units (pipe length, flare tightening torque...).			
Installation of HP, LP pressure switches on liquid line (small pipe).			
Pump down required.			
Nitrogen leak test (~ 25 bar).			
Refrigerant filling of hydraulic unit and pipes.			
Opening of refrigeration valves to outdoor unit.			

• Electrical checks

Outdoor unit (see chapiter "Electrical connections" page 22)	OK	Non compliant	Value
Main power supply 400v .			
Protection by rated circuit breaker.			
Cable cross-section.			
Earth connection.			

Hydraulic unit (see chapiter "Electrical connections on the hydraulic unit side" page 25)	OK	Non compliant	
Connection with outdoor unit (3 + Eath).			
Sensors connection (positioning and connections).			
3 way valve and circulators connections.			
Power supply and protection of electric auxiliary.			

7.2.2 Starting-up

• Switching On

(see chapiter "Star-up" page 28)	OK	Non compliant	
Switching On			
Initialisation for a few seconds.			
Operation of the pumps.			
Outdoor unit starts after 3 mins.			

• Outdoor unit checks

	OK	Non compliant	Value
Operation of fan(s), compressor.			
Current measurement.			
After a few minutes, measurement of air temp. delta.			
Check condensation and evaporation pressure/temperature.			

• Hydraulic unit checks

	OK	Non compliant	Value
After 15 mins of operation.			
Primary water temp. delta.			
DHW priority (switching of selection valve).			
Operation of heating, mixing valve, boiler backup, …			
Control settings.			

• Room control

(see chapiter "Configuring the room thermostat" page 28)	OK	Non compliant	
Settings, manipulations, checks.			
Setpoint display.			
Explanations on use.			

7.3 Settings sheet

Setting	Description	Set to.	Menus
Preliminary settings			
20	language		*operator section*
1	hour / minutes		*time & date*
2	day / month		*time & date*
3	year		*time & date*
5700	installation config.		*configuration*
Heating circuit No. 1 if 2 circuits = the least warm one (e.g.: floor)			
710	comfort setpoint		*HC1 adjust.*
712	reduced setpoint		*HC1 adjust.*
720	heating curve slope		*HC1 adjust.*
741	flow temp setpoint max		*HC1 adjust.*
750	room influence		*HC1 adjust.*
790 / 791	optimis. at switch-on / off		*HC1 adjust.*
834	servomotor travel time		*HC1 adjust.*
850 / 851	floor drying		*HC1 adjust.*
501 to 516	time programs		*HC1 program.*
642 to 648	holiday programs		*HC1 hol pgm.*
Heating circuit No. 2 (with 2nd circuit option) = the warmest one (e.g.: radiators)			
1010	comfort setpoint		*HC2 adjust.*
1012	reduced setpoint		*HC2 adjust.*
1020	heating curve slope		*HC2 adjust.*
1041	flow temp setpoint max		*HC2 adjust.*
1050	room influence		*HC2 adjust.*
1090 / 1091	optimis. at switch-on / off		*HC2 adjust.*
1134	servomotor travel time		*HC2 adjust.*
1150 / 1151	floor drying		*HC2 adjust.*
521 to 536	time programs		*HC2 program.*
652 to 658	holiday programs		*HC1 hol pgm.*
Domestic Hot Water (if DHW kit)			
1610	nominal DHW temp. setpoint		*DHW*
1612	reduced DWH temp. setpoint		*DHW*
1620	DHW release		*DHW*
1640 to 1647	legionella cycle		*DHW*
1660	release DHW circulation		*DHW*
5020	flow temp. increase		*DHW tank*
5024	DHW switch-on differ.		*DHW tank*
5030	charging time limitation		*DHW tank*
5060	heater operation mode	fill.	*DHW tank*
5061	heater release		*DHW tank*
5870	tank present (if DHW kit)		*configuration*
561 to 576	time programs		*prog.4 DHW*

Setting	Description	Set to.	Menus
Boiler backup			
3700	OT.switch-on authoris.		*addit. gen.*
3705	swith-off delay		*addit. gen.*
Miscellaneous			
6046	input H2 function	9	*configuration*
6100	OT sensor correction		*configuration*
6120	frost protection on/off		*configuration*
6205	reset settings		*configuration*
6220	software version		*configuration*
6711	reset heat pump		*error*
7070 to 7183	maintenance		*maintenance*
7700 to 7916	input / output testing		*I/O testing*
8402 to 8457	generator diagnosis		*gen. diagn.*
8700 to 9055	consumer diagnosis		*cons. diagn.*
Cooling			
5711	cooling unit	2 pipes	*configuration*
901 to 969	cooling settings		*cooling circuit 1*
Faults (if a fault occurs, press"Info" key)			
No. 10	outdoor sensor		
No. 33	flow temp. sensor		
No. 44	return temp. sensor		
No. 50	DHW temp. sensor		
No. 60	room sensor 1		
No. 65	room sensor 2		
No. 105	maintenance message		
No. 121	HC1 flow T not reached		
No. 122	HC2 flow T not reached		
No. 127	leg. prot. T not reached		
No. 369	external fault (EX6)		
No. 370	outdoor unit connect error		
6740 to 6746	alarm timeout		*error*
6800 to 6818	last 10 alarms history		*error*
6711	reset heat pump		*error*
Heat pump			
2844	switch-off temp max		*heat pump*
2884	OT auth. to start elec. aux.		*heat pump*
2920	Pk day clear (EX4) rel / lock		*heat pump*
Swimming pool (with "swimming pool" kit option)			
2056	generator setpoint		*Sw pool*
Outdoor unit faults (see page 54)			

7.4 Start-up data sheet

Site		**Installer**	

Outdoor unit	serial No.		**Hydraulic unit**	serial No.	
	model			model	

Refrigerant type			Refrigerant charge	kg

Checks			**Operating voltage & current on outdoor unit**		
Compliance with positioning distances			L1/N	V	
Condensate evacuation correct			L2/N	V	
Electric connections / connections tightnees			L3/N	V	
No GAS leaks (unit ID No. :)			L1/E	V	
Installation of refrigeration connection correct (lenght : m)			L2/E	V	
Reading in HEATING operating mode			L3/E	V	
Compressor discharge temperature	°C		N/E	V	
Liquid line temperature	°C		Icomp	A	
Condensation temperature HP = bar	°C	}	sub-cooling		°C
Tank water output temperature	°C	}	ΔT condensation		°C
Tank water input temperature	°C	}	ΔT secondary		°C
Evaporation temperature LP = bar	°C				
Suction temperature	°C	}	Overheating		°C
Battery air input temperature	°C	}	ΔT evaporation		°C
Battery air output temperature	°C	}	ΔT battery		°C

Hydraulic system of hydraulic unit						
Secondary system	Low temp. heating floor		}	Circulator brand	Type	
	LT Radiators			Circulator brand	Type	
	fan coils					
Domestic hot water ; tank type				Circulator brand	Type	
Estimated water volume of secondary system		L				

Options & accessories :						
Power supply for connected electric auxiliary						
Operation in cooling mode possible					Room thermostat C55	
Location of room sensor correct					Room control unit C75	
Cooling kit			Boiler kit			
DHW kit			Details			
2 zone kit						
Control settings						
Configuration type						
Essential settings						

8 Instructions for the user

Explain to the user how his installation operates, in particular the functions of the room thermostat and the programmes accessible to him from the user interface.

Emphasise that a heated floor has significant inertia and that therefore any adjustments must be made progressively.

Also explain to the user how to check the filling of the heating circuit.

CE

Complies with :
- Low tension Directive 73/23/CEE, under standard NF-EN60335-1.
- Electromagnetic compatibility Diretive 89/336/CEE
- Directive 98/37/EC,
- Directive for pressurised equipment 97/23/EC

This appliance also conforms to:
- Regulation 842/2006 of the european parliament on certain fluorinated greenhouse gases
- The standards relating to the product and the testing methods used:
  Air-conditioners, refrigeration units and heat pumps with compressor driven by electric motor for heating and refrigeration EN 14511-1, 14511-2, 14511-3, and 14511-4
- To standard XP ENV 12102: Air-conditioners, heat pumps and dehumidifiers with compressor driven by electric motor. Measurement of airborne noise. Determination of acoustic power level..